RAILWAY MODELLER

JULY 1955

For The Average Enthusiast

PUBLISHED 1/6 MONTHLY

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Fish Van ...		3	11

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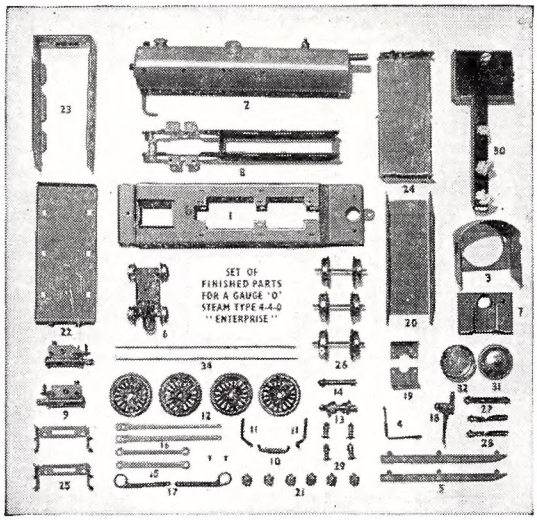

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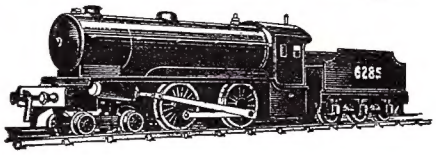

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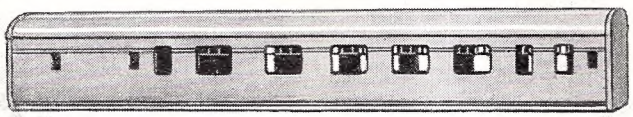

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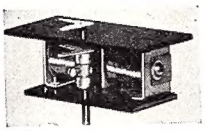

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For the Average Enthusiast Specializing in Small Scale Railway Modelling

VOL. 6. No. 57. JULY 1955

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Editor
C. J. FREEZER

Advertising
C. HOWE

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SEATON : DEVON
SEATON 580

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BACK NUMBERS

Back numbers of most issues of the Railway Modeller from November 1951 are available, price 1/6 each plus postage (2d. first copy, ½d. each additional copy). We regret that certain issues are now out of print, while stocks of many others are low.

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NEXT MONTH

We present a special issue devoted to "O" gauge garden railways, including the second part of G. E. Bigmore's Bigston to Archway, John L. Ray's Crewchester Without Tears and N. S. Eagles on the construction of two locomotives for his famous "O" gauge Sherwood Section.

THE LOBBY

MANY enthusiasts look forward to the summer, not only for its natural joys, but because it provides the opportunity to use their cameras for the purpose of collecting records of prototype details. There is no doubt that a camera can prove to be one of the modeller's most valuable friends, as it does, with little trouble, faithfully record much minute detail which can be studied when building the model.

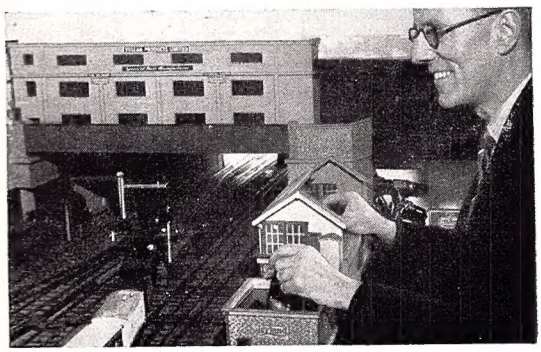
Needless to say, the ordinary photograph does not always faithfully portray colour, and it is wise, therefore, to be armed with a notebook to make a record of these necessary details, as the correct painting of a model is, of course, vital if authenticity is to be obtained. Holidays provide an ideal opportunity for obtaining such information away from home territory and are, no doubt, one of the very good reasons why the G.W.R. is so frequently modelled.

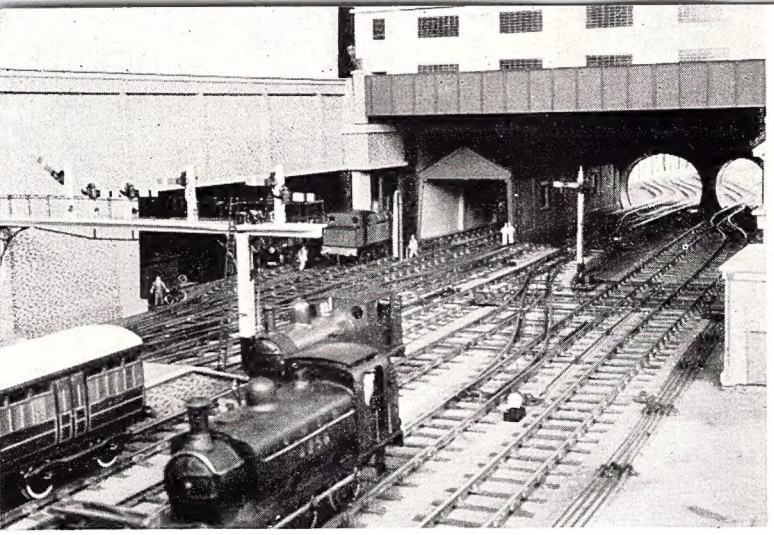
To all visiting the West Country this year, we remind you that if in the vicinity of Seaton a warm welcome awaits you at Pecoway House, and we look forward to meeting many old and new friends and "talking trains." Our "OO" gauge test track, for both two- and three-rail operation, is available for those who may wish to test the hauling powers of their own locomotives.

We should also like to take this opportunity of apologizing for the delay in returning volumes sent to us earlier this year for binding. Our bookbinders have had difficulty in obtaining the exact cloth as used previously, and rather than employ a substitute have delayed delivery. However, this material is now to hand, and all binding orders not already fulfilled should be within a short while. We regret that no further orders can be accepted for binding until the end of the year.

COVER PICTURE

G. E. Bigmore at the controls of Bigston, the main terminus of his "O" gauge L.N.E.R. system.





Railway of the Month

BIGSTON ARCHWAY

Photo 1. Bigston station looking towards the tunnel mouth. The extension box referred to on this page is clearly visible.

BOXES full of "O" gauge rail, chairs, sleepers, signals and other equipment from a layout dismantled before the war, with no room in the house available for erecting a new layout, coupled with an ever-growing accumulation of rolling stock which I wanted to see rolling again, was the problem which faced me shortly after the war. The only solution was to go outdoors, and having read up all the articles and books I could find on other people's experience in this direction I decided that it was a practical proposition—provided sufficient care was exercised in tracklaying and making good electrical connections right from the start.

The next hurdle was the successful persuasion of the family gardeners—a retired father-in-law and my wife—that a railway hugging the fence down one side of the garden would not seriously detract from the amenities thereof and that, in fact, it would be really advantageous to have a fairly large shed in which all the garden tools could be kept, instead of the very small lean-to affair which was housing them at that time. I obtained my right of way!

Much enjoyment was derived from planning the projected line, which had to fit into a shed 10ft. x 6ft. with a narrow run of some 50ft. in length down to the bottom fence—and it is literally "down," as the garden slopes away from the house on a falling gradient of one in thirty. The plan was drawn to scale on squared paper, which I consider is an essential prelude to any permanent layout so as to ensure that all pointwork will fit in where desired and that all clearances are really clear; at the same time all electrical sections, wiring and signalling were worked out and put down on paper. It may seem strange to some readers, but the very first piece of equipment that I completed for the new line was the signal-box frame upon which the operation of the line was to depend and which is described in detail in the chapter on signalling.

Thus on a boiling hot August Bank Holiday in 1948 a timber-framed, asbestos-sheeted shed was erected on a prepared concrete foundation and the electric mains supply was run through a short conduit from the garage which conveniently adjoins the shed. A box-like extension was fitted to the outside of the shed, which not only makes an effective tunnel for transition of the line from indoors to outdoors, but also houses a two-road engine shed and a scissors crossover which I did not particularly want exposed to the elements. Photograph No. 1 shows the inside of this extension piece, one side of which is removable so that maintenance work can be easily done.

The terminal trackwork was laid on wallboard material, which does not warp, supported on a framework of 2in. x ¾in. battens at a height of 2ft. 6in. from the floor and it was completed by December 1948. The original intention was to have outside third-rail for current collection, using "OO" gauge nickel silver rail soldered to the tops of brass screws, and I actually completed the terminal in this manner, together with six feet of ordinary track, which I left out of doors all that winter as an experiment. The result of that test was that the "OO" rail finished up in a beautiful zig-zag formation, probably owing to my not soldering it to enough screw-heads per foot. Some of the sections in the shed had been similarly affected, though to a lesser degree, so I decided to scrap that idea and try stud contact—a decision which I have never regretted. It meant, of course, undoing quite a lot of work and then fitting and wiring up studs on a track already laid on a baseboard 10ft. x 3ft.; this in turn meant doing the impossible, namely soldering upside down the copper wire to the studs underneath the baseboard, which I performed while lying on my back on the concrete floor!

During this same winter, with the aid of my scale plan, I was able to make up most of the track for the outdoor section in comfort on the worktable in the house. This speeded up considerably the completion of the line by early summer.

At this point I might make an interjection to those people who may still be hesitating on the brink about going outdoors and are wondering whether it is really a practical proposition. Speaking from experience I can say that it is, provided time is spent on careful tracklaying right from the start; I know that the urge to "get something running" as soon as possible is very strong, but do try to resist this if it means skimping and rushing the tracklaying. As mentioned earlier on, I had a natural obstacle to overcome in that my garden slopes down from the house on a gradient of one in thirty, and in order to have the track in the shed at a reasonable working height from the ground and at the same time avoid having the track rising way above the top of the fence at the far end of the garden, I was forced to adopt the "railway in the air" idea of supporting it on posts on a descending gradient of one in forty. The posts are cast concrete, 4in. square, spaced at 6ft. intervals, with wooden battens 2½in. x ¾in. spanning

TO

by G. E. Bigmore

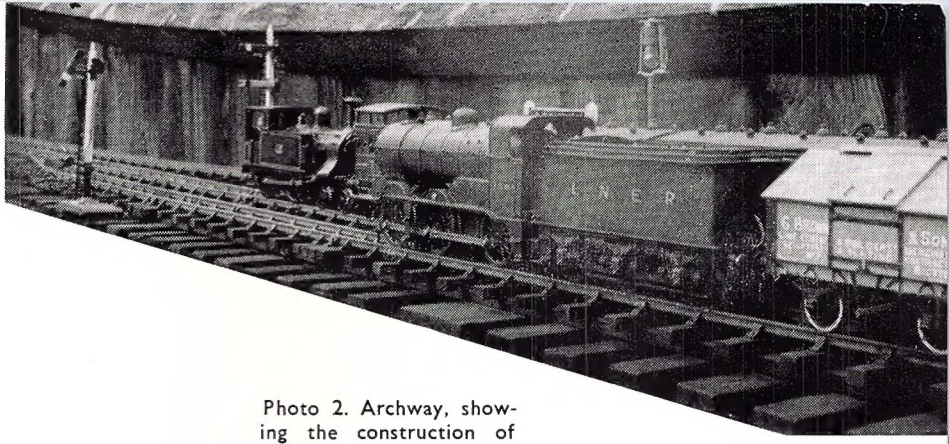


Photo 2. Archway, showing the construction of the track bed.

Part 1

the posts and bolted thereto with coach bolts. Old garden trellis laths cut into suitable lengths are nailed at right angles on top of the battens, the whole thing looking rather like the wooden portion of a piece of battened track. Photograph No. 2 illustrates this track-bed. I realize that the scenic possibilities with this type of construction are very limited, but it does eliminate all drainage problems and contributes to a much longer life for all the woodwork.

The track itself was made up in the usual way with coarse scale brass rail, cast chairs and wooden sleepers laid on battens in 3ft. lengths, each length being secured to the track foundation by not more than four thin brass nails and very often only two or three. I recommend $\frac{3}{4}$in. brass nails (obtainable at most ironmongers) for this job because, however perfectly you have planned your line, it is almost certain that within a year or so you will want to make some alterations to the formation, and it is so much easier to remove the brass nails than it is to extract rusted-in iron nails—and much less damaging to the battens.

The important part of outdoor tracklaying from the electrical point of view is to bond all rail joints, which is not such a hard task as it may sound. The bonding can be prepared while the 3ft. lengths of track are being made up by simply drilling a small hole at each end of the rail (allowing enough room, of course, for the fishplate not to overlap it), then, after all chairs have been threaded on, insert and solder in place a piece of copper or tinned copper wire, leaving about one inch of the wire free. When the rails are eventually joined together by the fishplates, the two adjoining pieces of copper wire are merely twisted together with pliers and given a coat of black enamel paint for protection; for appearance's sake these bonding wires should be on the inside of the track, making sure that they are pushed down towards the sleepers so as not to foul any flanges. Some people may deprecate the idea of merely twisting together the two ends of wire and advocate a single piece of wire soldered across each rail joint; but I can only say that I have no voltage drop or current difficulties anywhere on the system and, in addition, this twisting together business has two other advantages: (1) it does away with the necessity of buying yards of expensive flex so that the soldering iron can reach the bottom of the garden, and (2) the track can easily be taken apart at any point if alterations to the formation are desired at a later date.

My electric supply is stud contact at twelve volts, and for studs I have used household blanket pins (which are somewhat stouter and longer than ordinary dressmaking pins), although in future I think I should use $\frac{1}{16}$in. brass wire at points, which would eliminate

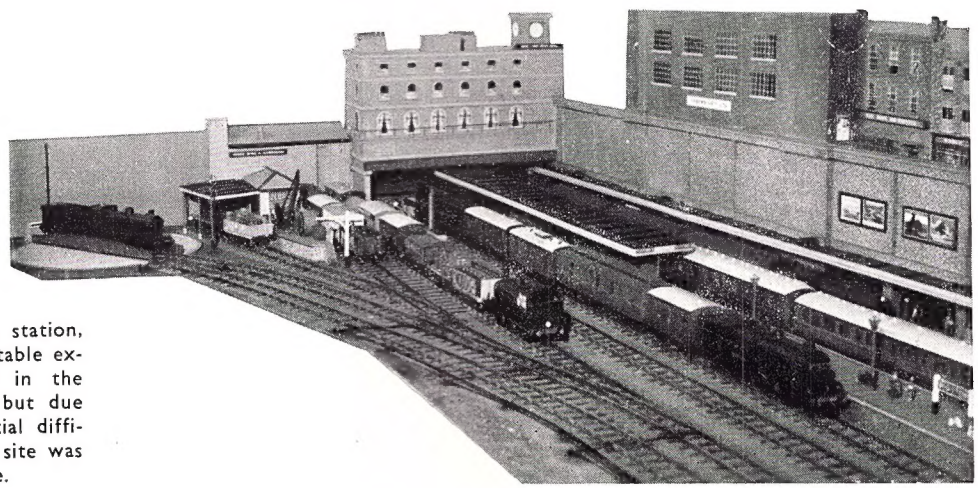


Photo 3. Bigston station, showing the turntable extension. This is in the "wrong" place, but due to the usual spatial difficulties, no other site was practicable.

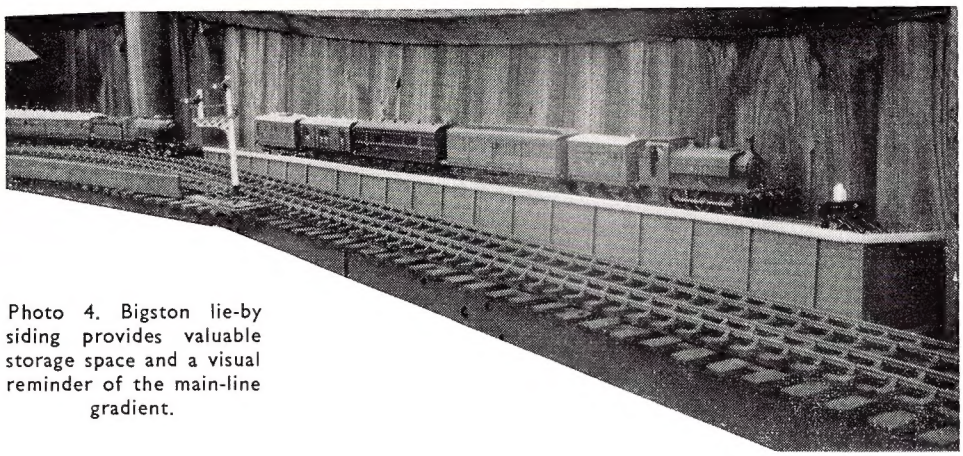


Photo 4. Bigston lie-by siding provides valuable storage space and a visual reminder of the main-line gradient.

the tendency for locomotive collectors to squeak when negotiating crossings due to vibration of the pins. These pins are made of plated brass and the copper wire joining them below sleeper level is twisted once round each pin and soldered, the point of the pin being turned upwards and hammered into the underneath of the sleeper. I have found that with this method none of the pins has been pushed down from its proper height, although in this connection I might mention that I do not use spring-loaded collector shoes—the weight of the shoe alone is sufficient to ensure good electrical contact. The ends of the wire joining the studs are in most cases fastened together at rail joints by gripping them between two small pieces of brass strip screwed to the end sleeper, but at some places they are just twisted together like the bonding wires.

THE LAYOUT

Turning now to a description of the layout itself, first of all let me say that for the outdoor section of a line I feel that simplicity should be the keynote of design—if you want complicated trackwork then confine it as far as possible to the boundaries of the shed. Secondly, large-radius gentle curves on the main line are much more pleasing to the eye than long stretches of dead straight track. Unfortunately, owing to my narrow right of way, I have not always been able to practise what I preach in respect of the latter point, but I have achieved a simple design which is easy to maintain and operate.

Starting from the top of the plan, Fig. 1, it will be seen that the terminus in the shed, Bigston station, has three platform roads with direct access to two of them from the motive power depot, then one empty carriage siding followed by two goods roads with three short sidings leading from them. Originally the line was designed to be operated by tank engines only, but eventually traffic requirements (to say nothing of the writer's own leanings!) demanded a couple of tender engines, all of which is leading up to an explanation as to why the turntable is situated at the end of the goods roads. It was found that a turntable could just be squeezed in without having to find a new home for the lawn mower, see photograph No. 3, and this rearrangement has only just been carried out. Incidentally, this is the third alteration to the layout that has been dictated by operating experience since the inception of the line five years ago. The first alteration was the removal of a complete circle of track at the foot of the garden, and the second alteration, or rather addition, to the original scheme was the lay-by siding which you will see on the plan just to the right of the motive power depot. This siding has a facing point lock and is used mainly as a head shunt for empty stock. In case you have forgotten after reading this far, my line descends on a gradient of one in forty and I have deliberately laid this siding level, with a retaining wall between it and the main line, as many visitors cannot believe that the track does drop at such an angle (an optical illusion due to the fence behind dropping at an even steeper angle) and this level siding does help to convince them; see photograph No. 4.

The remainder of the plan of the outdoor section is self-explanatory I think; Archway station (so named because of its proximity to a rustic arch) has a down main and an up main road on either side of the island platform, an up relief road and a siding. The two trailing points, although train operated, are always set for the straight road so that a train can be easily set back into the siding without the necessity for a point motor or human intervention at that end of the garden. With this very simple layout several trains can be dispatched from the terminus and eventually returned thereto in a completely different order.

SIGNALLING

You may recall that the first piece of apparatus I constructed was the lever-frame, this being the most important unit on the whole layout, as it exercises both electrical and mechanical control over the terminus area, and contains twenty-four L-shaped levers mechanically interlocked on the tappet and locking-bar principle. The signal locking-bars have the double duty of mechanical locking and completing the electrical circuit in the sections to which they apply by means of a small contact insulated from the rest of the frame and to which the feeder wire is attached. The only exceptions to this arrangement are in one or two places in the sidings, where the supply is governed by the point setting. Platform ends and engine shed sections are cut in by small spring contacts mounted in the signal box; their normal position is off and they are subsidiary to the appropriate running signal.

Although not absolutely fool-proof owing to the need for simplicity, this frame does provide a very great measure of safety, as it is impossible to move a locomotive without first setting up the desired route and then pulling off the necessary signal. Apart from being a more railwaylike method of operation, it also eliminates the need for a switchboard or sectioned diagram panel.

Having completed the frame, I was able to connect the pointwork immediately the terminus track had been laid and to complete the wiring of the signals as soon as they had been installed. Test running was then carried out as each piece of new trackwork advanced down the garden.

All points at the terminus are connected to the frame by brass rodding and bell cranks and the longest run is about fifteen feet to a point outside the shed; in the middle of this run I have placed a reversing crank or bar, which reverses the direction of throw and which counteracts any expansion or contraction of the rodding due to temperature variations.

One point at the far end of the line is operated by a motor, the moving parts of which are coated with vaseline to protect them from rust; the motor is raised up off the baseboard and enclosed in a wooden box, and over the whole lot is a signal box. It may sound a lot of palaver to protect one point motor, but it has never failed or given any trouble. Two other points, also at the foot of the garden, are trailing only and operated by the trains themselves, but the point blades are held in the straight road position by a lead weight operating through a vertical point crank. The weight of the lead is just sufficient to hold the blade against the stock rail and yet is easily pushed over by an empty open wagon; I find this arrangement very much better than a spring, which is prone to rust and difficult to adjust to suit all climatic conditions.

The terminus is fully signalled with an assortment of upper quadrants, somersaults and ground signals—see photograph No. 5. Here again the equipment is worked mechanically, being connected to the frame by thin copper wire and where applicable by chain and pulley wheels. All semaphore signals are returned to danger by means of lead weights suspended from the miniature balance weight levers by thin wires and hanging out of sight below the baseboard. The new lay-by siding just outside the shed with access direct from the down main line has been protected by means of a pair of two-aspect colour light signals working in conjunction with a facing point lock. I must confess that the signals in the Archway station are dummy in so far as they are not remotely controlled, but the fact that they do not return to danger after the passing of a train is not very apparent from the shed fifty feet away.

Archway is, however, fully track-circuited, and in the six places that a train or light engine can be stood its presence is indicated on the "outside" control board by a lamp. This track-circuiting has averted many an accident and for night operations it is a "must." I achieve it by the ordinary method of insulating about twelve inches of one running rail at the desired place in the track and connecting that piece of rail by a wire to a torch bulb in the shed; the other side of the bulb is connected to the remainder of the running rails via a 3.5-volt A.C. transformer—thus any vehicle standing on the piece of insulated rail completes the circuit through its wheels and axles and lights the bulb. For convenience I have grouped the outdoor section switches, the point motor switch and track-circuit bulbs on one panel quite separate from the terminus signal box; it can just be seen above the signal box in photograph No. 5.

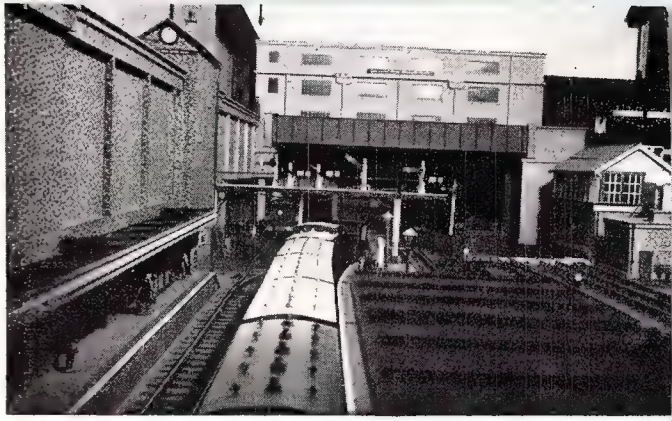
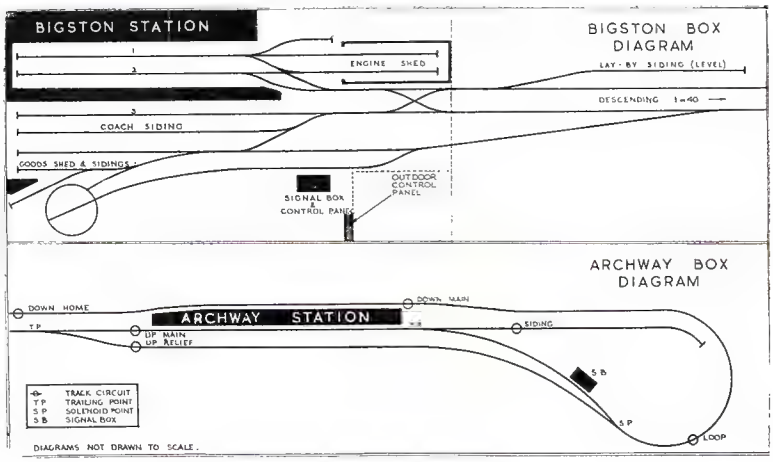


Photo 5. Bigston from the station building.

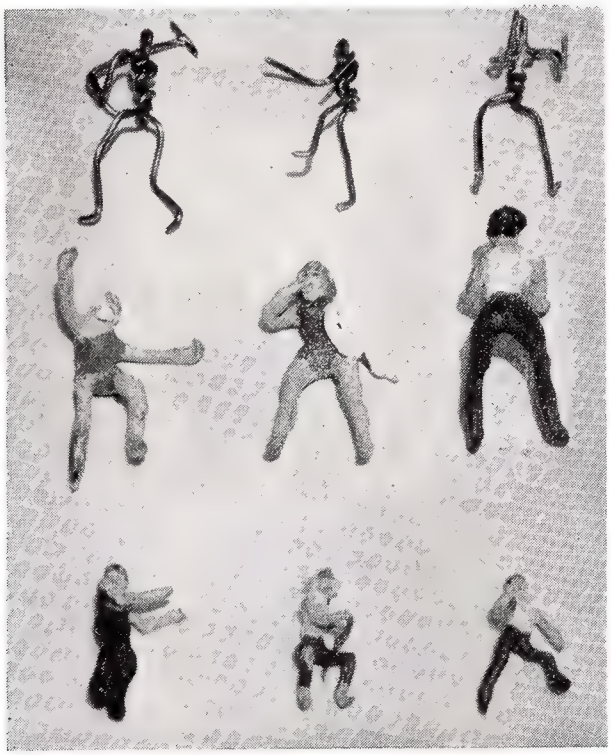
(To be continued)



How to make

SIMPLE WAX FIGURES

by P. D. Hancock



Wax figures under construction. Top row : wire skeletons. Centre row : " O " gauge figures. Bottom row : " OO " gauge figures.

THE idea of using wax for the modelling of miniature figures is certainly no new one. Indeed beeswax was one of the first modelling materials ever used by man, and wax figures and ornaments appear among the artifacts of nearly all early civilizations. It is rather surprising, therefore, that its possible uses in the field of railway modelling have been so little explored. At any rate, I myself can find no earlier reference to its use than an article by John Allen which appeared in the September 1949 *Model Railroader*. This article aroused a good deal of interest at the time, and periodic references to wax figures have appeared ever since in the pages of the American magazines.

The use of materials other than wax has also been suggested, and the most promising of these would appear to be a form of cheap dental paste which, unfortunately, does not seem to be readily available in Britain. The advantage of the paste is that it sets rock-hard and can be applied without any heating. In other respects, however, it does not appear to be any easier to work than beeswax—and beeswax is at least obtainable in this country. Probably the easiest place to obtain it is at a chemist's, though it may be possible to buy wax specially prepared for modelling purposes at some of the larger art shops. Beeswax candles (which usually contain from 50 to 60 per cent beeswax) are also fairly suitable for our purposes, but the ordinary tallow candles are absolutely hopeless.

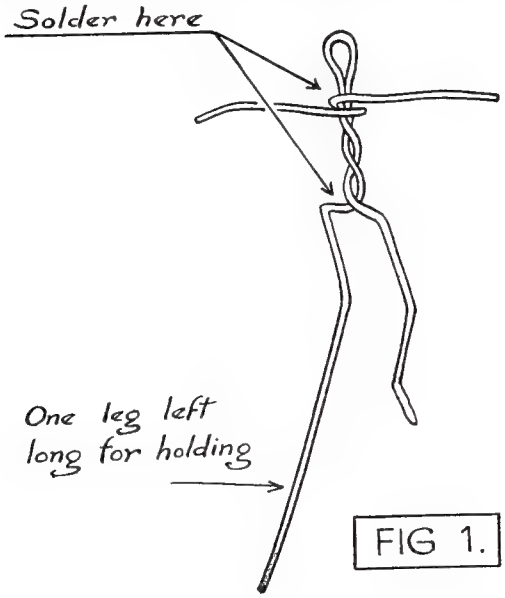


FIG 1.

The first step in the production of wax figures is the preparation of suitable wire " skeletons." In 4mm. and 7mm. scales these need not be very complicated. and something along the lines indicated in Fig. 1 will do very well. The actual thickness of the wire used is not very critical, but it should be no more than the scale thickness of a man's wrist.

Incidentally, it is advisable to go in for a certain amount of " mass production " when making these figures, and a score or so of the wire skeletons can be made very quickly and easily from the odd scraps of wire which most of us usually have lying around. Arms and legs can be bent into the required positions, and a blob or two of solder added wherever it seems necessary. It is useful to leave one leg or arm longer than the other, since this gives something to hold on to when it comes to applying the wax. In this connection a pair of pliers or a spring clothes peg is a useful accessory, since the figures get quite hot, and burnt fingers are not conducive to good modelling!

The wax itself should be melted in some suitable

No model railway is complete without staff and passengers, not to mention passers-by and the ubiquitous spotters. Wax figures provide a simple way of peopling your layout with a host of individual characters.

An unashamed crib of John Allen's "rheumaticky old man."

Driving in the spikes on the C. & M. extension to Glenmuir.

container (such as a tin lid) and the melting can be accomplished in one of two ways. The most satisfactory is to rig up some sort of stand as indicated in Fig. 2 and to heat the wax with the aid of a small paraffin lamp, or even a home-made methylated-spirit lamp. This latter is made quite simply out of a suitable glass jar with a screw-top lid to it. Two holes are punched in the lid—a largish hole for the wick and a smaller hole to act as an air vent. The wick itself is a length of cotton wool, which passes through the large hole in the lid and reaches down to the bottom of the jar. It takes a minute or so for the cotton wool to become properly saturated with spirit once the jar has been filled, but thereafter it lights up quite easily and will give a perfectly satisfactory flame. Once the wax has melted, the lamp should be moved to one side in order to keep the liquid wax at a reasonable temperature while one is working with it. It is getting too hot when it starts to smoke.

The other method of melting the wax is simply to place it in some container in a pan of hot water. This will quickly melt the wax and it will remain fluid for from five to ten minutes. There will, however, be no means of regulating its heat as there is when one is using a naked flame.

The best way of applying the liquid wax to the wire skeletons is to brush it on with an old paintbrush (about size 4) and to build up the required thicknesses layer by layer, waiting for each one to cool before applying the next. There is a certain amount of skill needed here—but not nearly as much as one might imagine, since the wax tends to flow naturally around the wire shapes. Anyway, once the figures are cool, one can get to work with a penknife and do a little judicious carving and modelling. One can also incorporate extras such as hats and skirts; a hat would consist simply of a paper washer glued over the head, while a skirt can be made out of a little cone of paper wrapped around the figure and glued in place. Finally the figures must be painted, and the flat poster oil paints as marketed by Dane and Co. are recommended for this job, although they will take a couple of days to dry thoroughly.

Figures made in this way will be quite robust enough for all practical purposes, and, though they may not be as detailed, or as finely finished, as some of the commercial varieties, it will be found that they nevertheless take on quite a life and character of their own. They can, after all, be tailor-made to suit the modeller's own particular needs, and no posture is too impossible to model. One can have men pulling on ropes, lifting up barrels, or wielding pick-axes. One can, in fact, have men doing all those 101 odd jobs for which the commercial figures are not suited, and if one should be modelling a period layout there is nothing easier than to stick top hats on all the men and crinolines around the ladies. Finally, there is the "minor" consideration that these wax figures cost next to nothing to make, and that a score or so can be churned out in one evening's work. Well, what are you waiting for? There's a chemist's just around the corner!

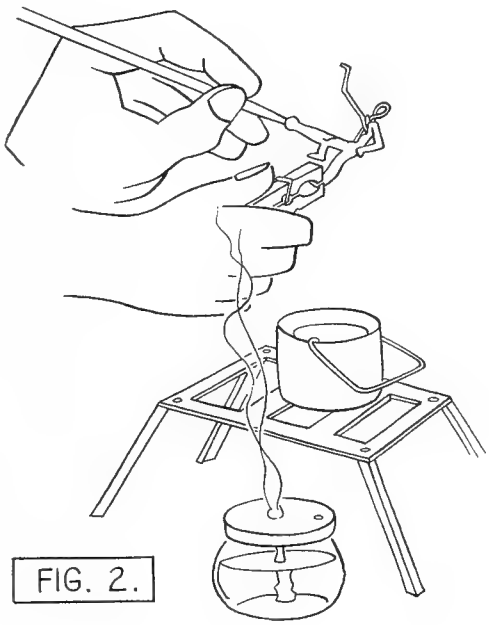
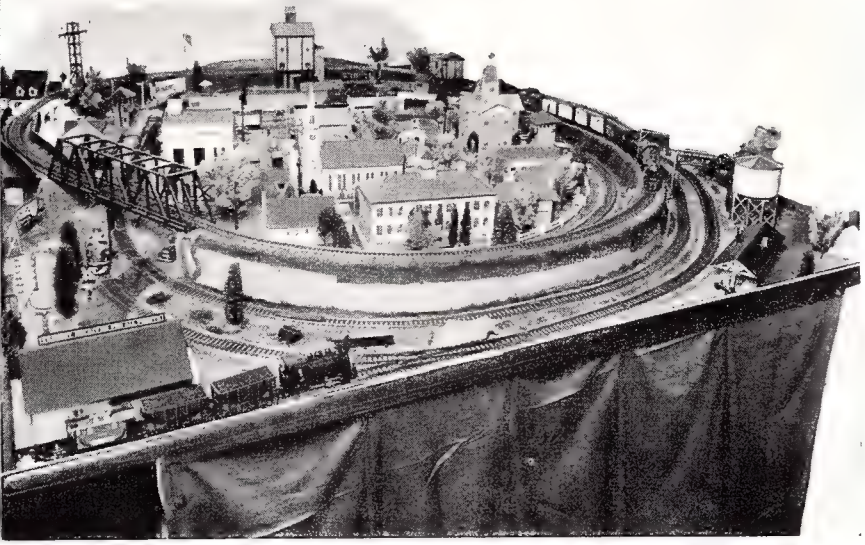


FIG. 2.

MODEL U.S.A.

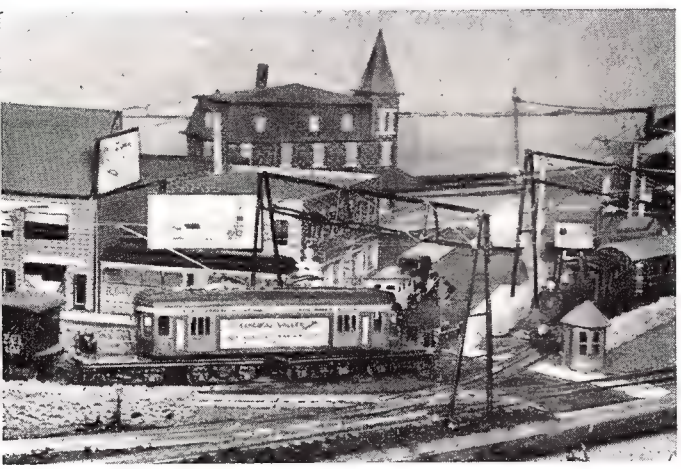
by Bill Schopp



Few American layouts are as completely detailed as this "HO" gauge, five by six foot empire created by Samuel A. Skean, a professional photographer, of Trenton, New Jersey. While nearly everything visible, except the windmill, is based on a kit, additional details have been added to improve each.

HAVING read the various British model magazines for some years, I have the feeling that British modellers on the whole do not have a very good idea of the subject presented in the title. This is undoubtedly due in large part to a naturally greater interest in the particular railroad scenes round about one. U.S. model railroaders are interested chiefly in U.S. railroads as prototypes, but also due to currency restrictions. Only those of you with credit or friends in the United States can acquire any of our goods, so why be titillated unnecessarily? Still, a look at the model railroad situation in the United States should be of interest.

Model railroading in the United States is, in the overall view, to be looked upon as only a branch of the hobby industry, which also includes model boats model aeroplanes, model antique automobiles, basketry, weaving, paint-by-numbers, leather craft, figurine painting, shell and sequin jewellery, and so on. There are maybe 8,000 "hobby shops" in the country dealing in trains as only one phase of their business, and only a handful that are strictly model railroad.



Pioneer stuff from 1941. The loco is an "HO" gauge approximation of the Illinois Terminal Class C trolley locomotive and drew power for its two motors only from the overhead wire. The steam engine at the right is one of the earlier "HO" "narrow gauge" engines in the United States, a 2-4-4T built by Bill Schopp which was powered by a Pittman motor.

Being an industry rather than strictly a hobby, model railroading has chiefly what the manufacturers—and the wholesalers and retailers, to go on down the "pipeline"—think will sell. There are those who "build from scratch," buying only the barest necessities such as motors, gears, wheels, etc.; but these souls are vastly in the minority, and the average American railroad modeller subsists on kits, assembling them with greater or lesser skill, perhaps adding detail, with the result that the engines, cars or buildings seen on one railroad are very much like those seen on another. This is not as bad as it sounds, since Mr. Average Railroader doesn't care.

To speak of model railroading in the United States is to imply "HO" gauge. Of this more in a moment. "TT" gauge (.471in.), 1/10in. scale, has a fair-sized following, a vast assortment of engines and cars, but has been held back by a lack of suitable flexible track as well as a prejudice that it is "too small," the former bugaboo of "HO" gauge. Since there is not much demand, few dealers carry much "TT"-gauge stock, hence there is not much demand, a vicious circle indeed.

"OO" gauge (19mm.), 4mm. scale, is dead but it won't lie down. Very little is manufactured to this scale and for this gauge any more, "HO" scale and gauge having filled the small-gauge niche to overflowing. There are a few fine "OO" gauge layouts in the country and one manufacturer, but for all practical purposes it is omitted from most cataloguing of American model railroading.

"S" gauge ($\frac{7}{8}$in.), $\frac{3}{16}$in. scale, has grown vastly since the war, helped by the entrance of the American Flyer (toy train) company into the gauge with very fine two-rail outfits with sectional track and all. "S" gauge is entirely two-rail, and is divided into those using track suitable for toy (tinplate) wheels and flanges and those using "scale" track. The two types are incompatible without the use of universal points.

RAILROADING IN THE

" O " gauge (1¼in.), ¼in. scale, is, like the waltz, always said by its partisans to be " coming back." While there are doubtless more, numerically, " O " gauge modellers today than there ever were, their percentage is lower than ever owing to the preponderance of " HO " gaugers. While there are many " O " gauge manufacturers, few of them sell through normal trade distribution channels, hence, as with " TT," " OO " and " S " gauges, few dealers sell " O " gauge, hence people cannot get it, hence there is less demand, hence no manufacturer can afford a big promotion, hence the demand is less, and so on. And of course " O " gauge takes up space.

Mention should be made of " O " gauge inside third rail toy trains. This field, heretofore dominated by one manufacturer, Lionel, has now been entered by many smaller firms, resulting in a variety of items and some competition. Many railroaders combine " O " gauge toy trains with scale-type track, and this is called Hi-Rail. There are probably no extant American layouts in " 1 " gauge and few in 2½in. (standard) gauge, both being existent only as exhibits in the collections of the numerous collectors of old toy trains.

" HO " gauge (16.5mm.), 3.5 mm. scale, really stands for model railroading in the United States. There are well over 10 firms manufacturing " HO " gauge equipment, kits and parts, and a good percentage of them are full-time propositions, with several dozen employees in busy seasons.

Almost any locomotive type with eight drivers or less is available in " HO " gauge, together with nearly all styles of freight and passenger cars, ready-laid or flexible track, all kinds of building kits, and all kinds of electrical devices.

" HO " locomotives range in size from a four-wheel " jeep diesel " switcher or tank type steam switcher up to the huge 4-6-6-4 Bowser articulated and the even bigger 2-6-6-6 Winton articulated. A surprising number of these articulated locomotive kits are sold, considering their size and price.

A corollary of the preceding paragraph is that a surprising number of American home " HO " layouts are large, although scenery is often lacking on the larger efforts. The writer recently designed to order an " HO " layout 43ft. x 18ft. in dimension, which consisted of two complete double-track railroads, oval in shape (one for freight, one for passenger), two reverse loops for each, complete yard, terminal, and engine service facilities for each, and various interchange connections between what amounts to the two separate layouts. The experienced " HO " railroader, once given adequate space, is likely to go hog-wild in the size and complexity of his layout, acknowledged maintenance problems notwithstanding.

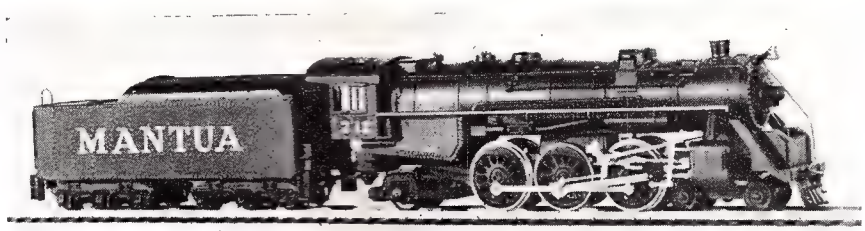
American model railroad magazine editors have sold themselves on the premises that the average home layout is about 4ft. x 8ft., or at best 5ft. x 9ft. in size. This is probably fathered by the thought that the emphasis on such pigmy pikes will get more space-bound modellers out of their armchairs and into the mad fun of building and operating their own model railroads. Space is indeed a problem, as it undoubtedly is in Britain, what with many modellers living in apartments, and new homes being built without cellars and/or attics. But my impression is that many model rails prefer to wait until the happy day they *have* adequate space at their disposal to build much of a model pike. There *are* small pikes in the United States with exquisite scenery, but there are undoubtedly more that consist principally of *railroad* with a minimum of scenery.

" HO " gauge even has its subdivisions. One of these is old-time equipment, usually referring to post-civil-war days. There are two locomotives available, both 4-4-0s, with a 2-8-0 to come. There are many car kits to be had in old-time, plenty of buildings, and even stub switches! Narrow gauge (10.5mm.) to 3.5mm. scale is growing in popularity, there being one rather expensive 2-8-0 locomotive kit on the market, plus trucks, car kits, and even switches. The number of actual layouts in " HOn3," as it is called, is quite limited, but there is plenty of interest. The use of dual gauge (3ft. gauge *and* standard gauge) in one layout offers many possibilities.

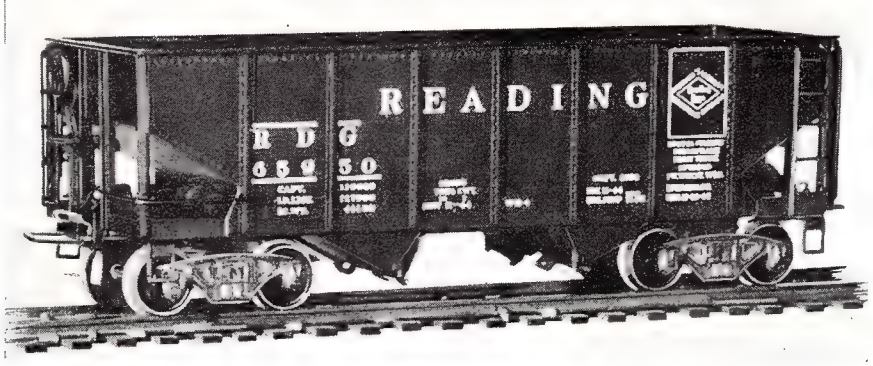
Heavy electric traction using overhead catenary is, strangely enough, not popular here, there being no domestic electric engine kits on the market, although one is in prospect. What makes it strange is that the foreign catenary-operated locomotives, principally Marklin, excite wide admiration in spite of the relatively high price of their outfits. If there are any outside-third-rail-powered " HO " layouts left in this country, I have not heard of them.

" HO " trolley cars are growing in popularity, there being several firms in the field. It seems that as the real trolley cars wane in the face of the waxing of the bus on city streets and through the countryside, the nostalgia that results in the model trolley hobby increases.

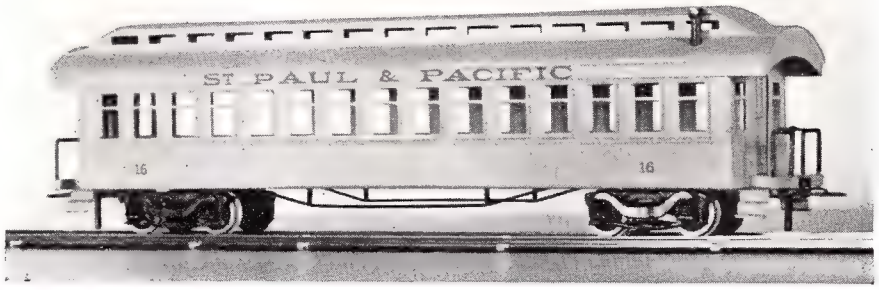
" HO " locomotive kits, with one or two exceptions,



A Pacific type " HO " gauge locomotive as built up from a kit. Nearly all detail is cast right on the boiler, which is made from a zinc-base die-casting metal. This can easily be blackened chemically, hence many American layouts have unpainted locomotives which are still black. The use of plastics in locomotive kits has not been a success, although more experiments are going on. The only plastic parts on this Pacific are the nylon worm and gear and the insulation for the rear coupler and engine-tender draw-bar.



Reading hopper car by Mantua is of sheet brass and die-cast construction with printed cardboard sides. Other American "HO" freight car kit can be found, of all types of construction. Nearly all have complete lettering by above means, lithography or silk-screen process. A few must be lettered with transfers.



An open platform coach in "HO" gauge as sold in kit form by Mantua, who also make matching mail-baggage and passenger baggage cars. This all-sheet-brass kit is notable for having the clerestory windows cut out and interior seats. Other American "HO" passenger cars can be found in all-die-cast, plastic, wood, cardboard, and combined constructions. Some streamlined cars are of extruded aluminium shapes.

tend towards "screwdriver assembly." About all one has to do is to scrape or file off the flash from the die-castings, insert a few screws, and hit the road. Since soldering is taboo—and is in fact next to impossible on die-casting metal—what parts are not assembled with machine screws use self-tapping screws or riveting to go together. Plastics have come into wide use and such parts are usually affixed with cement or friction. Nearly all worm gears are of nylon and many worms as well.

Car kits are also of the screwdriver assembly type, if indeed they require *any* assembly. Some are nearly all plastic, with just a little metal for weight. Others are still all metal. Yet other car kits, evidently meant for the man who really wants to *build* the car, look like a miniature lumber yard, although the sticks are cut to exact length and a few needed metal fittings are included. While building kits are largely cardboard and wood, a few sheet-metal and die-cast kits are also on the market, with great appeal to the craftsman.

The coming phase of "HO" model railroading in the U.S. is probably the upsurging of what we call "'HO' tinplate," meaning toy trains in the tradition of Marklin, Hornby, and so on. Tinplate is hardly used at all, but zinc-base die-casting metal is, and so are plastics. Although several other makes are available, leading manufacturers of train "sets" in "HO" have standardized on Atlas Snap-track and switches. The old line modellers take violent umbrage in the press against this infiltration of ready-built "HO," but it makes no difference: material suitable for them will continue to be available.

The American idea of layout designing is something on which I can speak with some authority, being the only "professional" layout designer in the country and the writer of the "Layout Doctor" series in *Railroad Model Craftsman* magazine for six years. There is considerable lip service to the idea of having a railroad run from point to point; to planning the scenery first, then inserting the railroad as is done in nature; to planning the prototype route of your model railroad, then designing it; to integrating a whole industry on a layout; to timetable operation; and to other clearly meritorious ideas. The fact is, as indicated by my own correspondence, that most Americans are in model railroading for one or both of two reasons: (1) the thrill of building, whether locomotives, cars, structures or scenery; (2) to see the trains run.

The average American's layout, I would say, is basically a big continuous oval, pretzelled around into several layers, with probably one "division point" yard and engine terminal, and some speciality as a big river valley, fancy bridges, a branch line, a trolley, a narrow gauge, etc. He wants as many "levels" of track as possible, at least three. He would like reverse loops, but often these are not possible. Carried over from his toy train beginnings, he wants to have as many trains as possible operating at once. Hence he prefers the electrical simplicity of the double-track main line over the more interesting operational possibilities of the single-track line with passing sidings at intervals. I have added one new wrinkle on my own, a continuous yard switching lead or "yard lead oval." This unrailroadlike device not only keeps switching from fouling the main line, but gives another circle on which to run a train in order to have as many as possible running at once.

IT KEEPS FALLING OFF! Part 2

POINTS & CROSSINGS

by P. E. Barnes, B.Sc.

YOU all know the tables and diagrams in newspapers and magazines—feeding charts for babies, cropping plans for gardens and so on—which tell you how to do things without understanding them. A close parallel is provided by the usual instructions on laying pointwork—all " do this " and " do that " with never a word about why. Modellers come to grief regularly, just as foreigners go on for years saying " zee " or " vee " or " dee " instead of " the " because nobody tells them how to do better; yet both faults are curable in a short while once you know just what it is you do wrong.

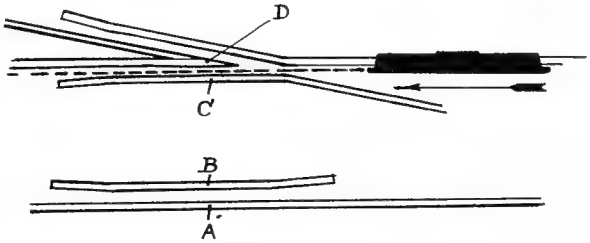


Fig. 5

Fig. 5 shows the critical part of a turnout. The wheel flange should run along the dotted line, and this is just what it will do if you make this the easiest way for it to go. In standard " OO " the width of this gap is 1¾mm. minimum, and the flange is ½mm. thick, so you have ¾mm. to play with. To stop the flange from trying to go the wrong side of the nose of the crossing, a check-rail is put at B, to press on the back of the other wheel—that is all that it is for, and you can position it with a soldering iron by trial and error until it does its job. Never mind about the gap A-B; if you set the check-rail this way and make the gauge right the gap will look after itself. It is the distance B-D which matters, and errors in it which cause most derailments at points. In " EM " gauge the gap through which you have to guide the ½mm. flange is 1mm. wide, so that you have ½mm. as a margin of error. Some folk say that this demands special training, years of hard practice and a micrometer, but then some folk will say anything.

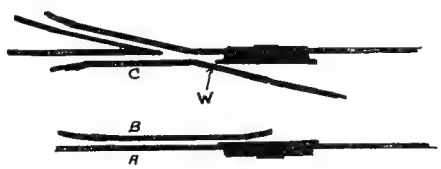


Fig. 6

The next trouble spot is shown in Fig. 6, but although this must have accounted for hundreds of derailments I have never seen any mention of it. If a wheel is moving in the direction of the arrow, it is possible for the flange to hit at W, and so be jerked towards the crossing gap. Before it has gone far it is suddenly brought up short by the flange of the other wheel hitting the check-rail B, so suffering a second jolt. With three-foot radius points, the angle at W is not very sharp, and the effect is only likely to be serious with a very light and skittish pony truck or bogie running at high speed. If the truck is weighted or held down by a spring, it should effect a cure—as long as it does not lift it cannot derail. In " EM " and " HO " no contact should be possible at W.

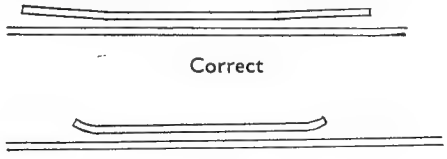


Fig. 7

Fig. 7 shows two check-rails, one as it should be laid and one as it all too often is laid. We have already defined the purpose of a check-rail—to guide the flange gently away from the nose of the crossing—and it is obvious which one is going to do its job best. With the second variety it is possible to get a bad jolt, followed by the trouble mentioned in the previous paragraph, which should provoke any self-respecting vehicle into protest.

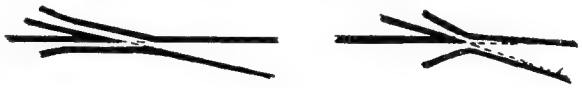
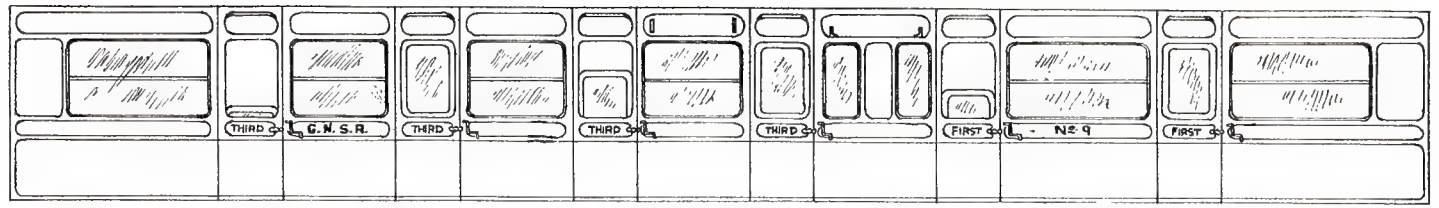


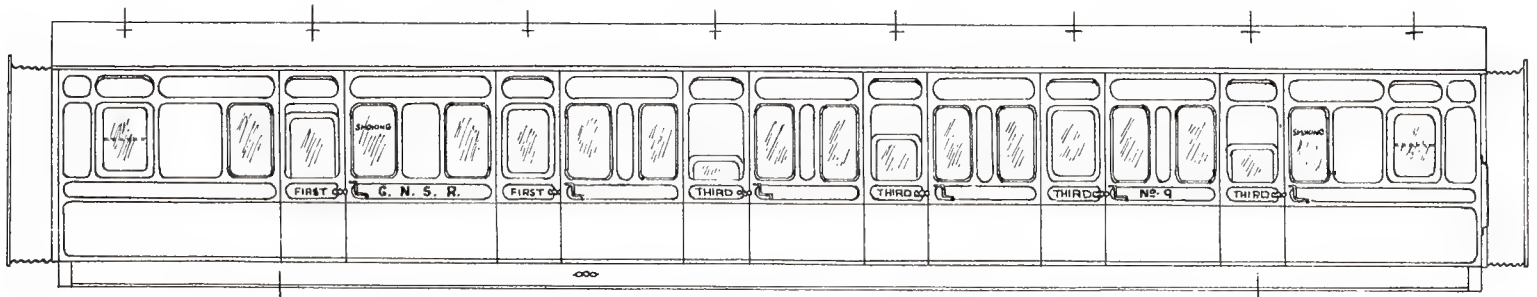
Fig. 8

In the list of " nine deadly sins " in the first part of this article, No. 7 was bad alignment of rails at crossings. There is some optical illusion about crossings which accounts for the widespread fault shown in Fig. 8. If you rely on your eye for lining up crossings this sort of thing seems inevitable, and the results are inevitable too! I am convinced that all the writers on this subject are wrong in advising the beginner to lay the outside rails first. The crossing point is the most critical piece of trackwork and should be accurately laid and lined up with the two rails approaching it, then the check-rails should be positioned so that the test wheels run through smoothly. The gauge will look after the outer rails quite well—there is actually such a large permissible error in the gauge, which may be 1mm. up or down in " OO," that trouble is more likely to be avoided by concentrating on getting the finnicky bit right first. [Or you can save all the trouble by buying a ready-made frog!—Ed. *R.M.*]

Now put down this book, take up your pair of wheels on an axle and go and play about with them on your layout and before long you will know as much about points and crossings as the experts. Put a tiny dab of red paint or chalk wherever the wheels

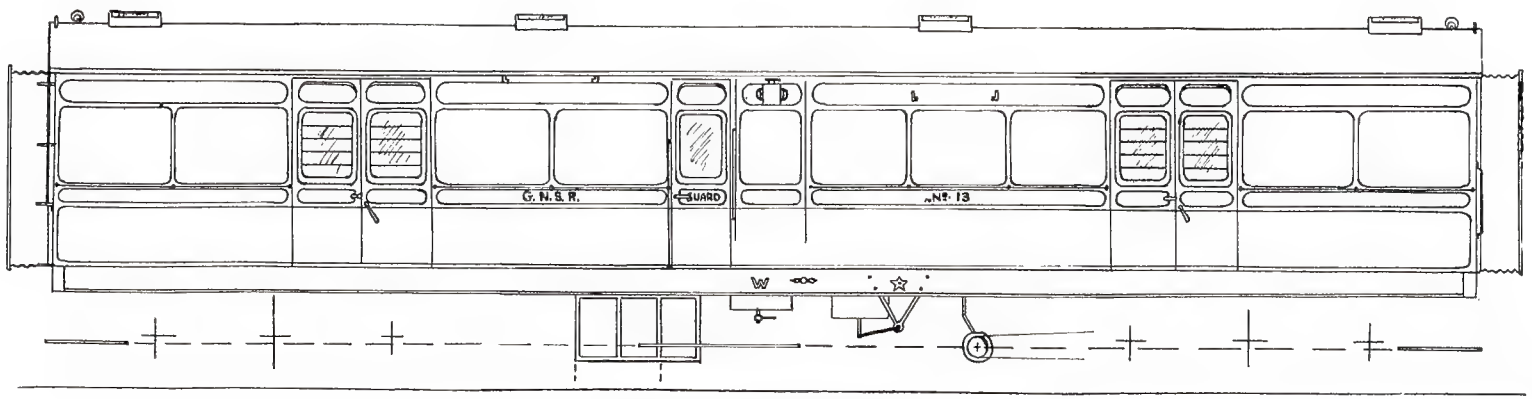
(*Continued on page 165*)



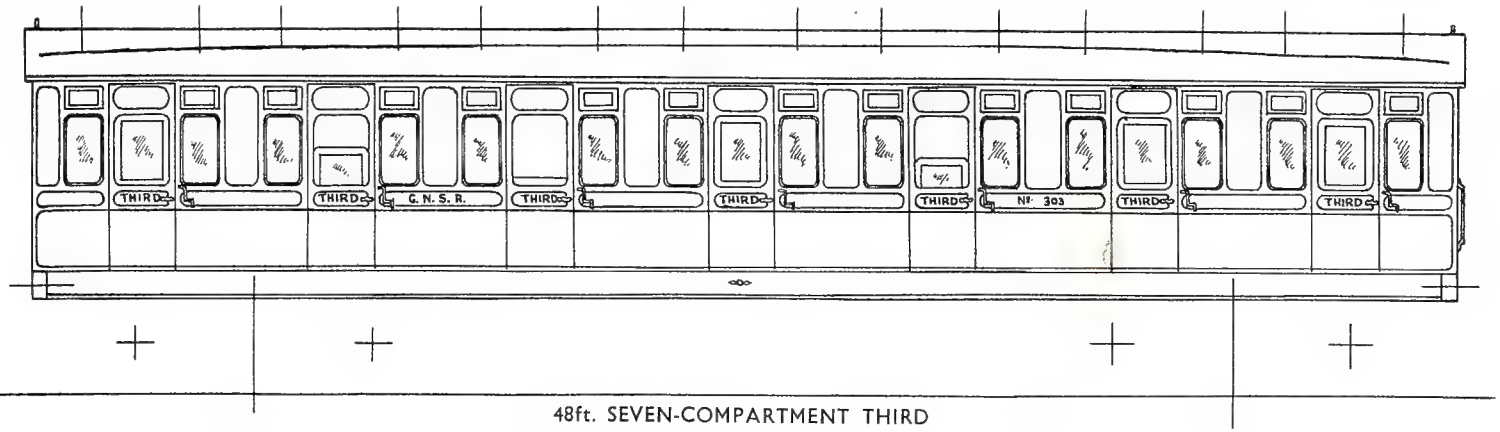


Underframe details as for 48' luggage van.

48ft. CORRIDOR COMPOSITE

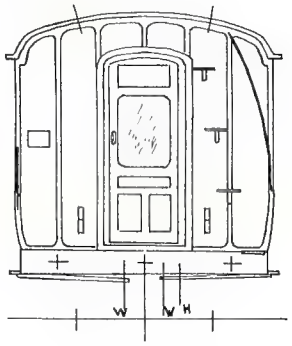


48ft. PASSENGER BRAKE VAN

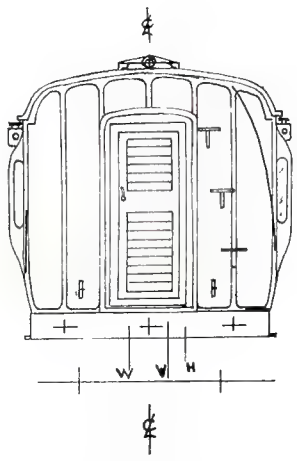


48ft. SEVEN-COMPARTMENT THIRD

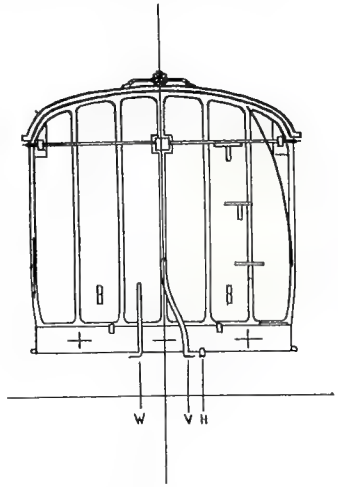
END ELEVATIONS



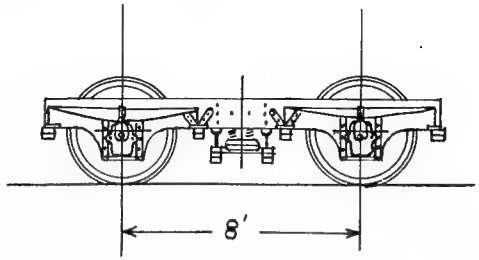
48ft. Compo



48ft. Brake

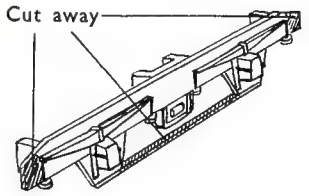


48ft. Third



8ft. W.B. BOGIE

Modification of Hamblings S.R. bogie sideframe to G.N.S. 8ft. type.



SOME GREAT NORTH OF SCOTLAND RAILWAY COACHES

Drawings and notes by J. A. N. Emslie

GENERAL: All bogie coaches ran on standard all-steel 8ft. wheelbase bogies fitted with Mansell disc wheels (see appended drawing). In "OO" these bogies are best represented by altered Hambling's Southern Region types. The drawings provided show the typical G.N.S. appearance from 1896 to 1923, the designs stemming from Pickersgill's first pattern. Though Westinghouse was the standard brake on the Great North, many vehicles had vacuum brakes also. Lighting was by oil in the earlier types but after 1896 electric lighting on Stone's system using axle-driven dynamos was made standard. All ex-G.N.S.R. coaches have numbers in the 7000 series.

FEATURES: Shell roof vents, oval D-section door vents, polished brass door handles and commode rails and the provision of a horse towhook on the solebars. Many of the older passenger and goods brake vans were fitted with dog boxes.

TYPES SHOWN:

48ft. CORRIDOR COMPOSITE (B.R. No. SC 7831 E). Built 1899, Pickersgill, No. 53, 24T 10C.

48ft. PASSENGER BRAKE VAN (B.R. No. SC 7131 E). Built 1923 to Heywood's design, G.N.S. No. 13. Weight 23t. 14c. I believe that some vans of similar design had appeared after 1910 and were used as fish vans. Probably these vehicles had double doors in the centre in place of the guard's door and ducket.

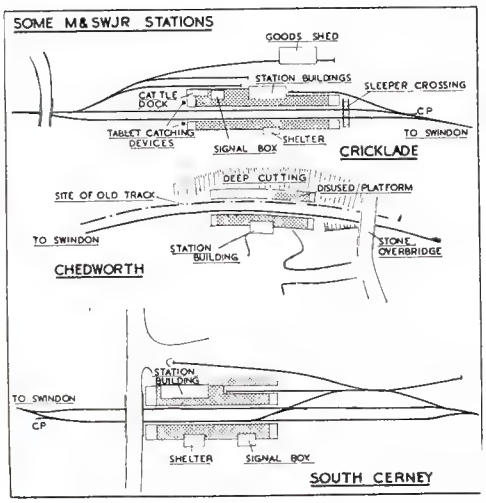
48ft. SEVEN-COMPARTMENT THIRD (B.R. No. SC 7427 E). 1923, Heywood, No. 303, 25t. 1c.

Prototype of the Month

THE MIDLAND &

ONE of the many small companies taken over by the Great Western Railway in 1923, the M. & S.W.J.R., ran from Andoversford in the north to Andover in the south, serving such places as Cirencester, Swindon (town station), Marlborough and Savernake. The headquarters of the company were at Swindon, but from the modeller's point of view the layout there is too extensive for serious consideration. It is the smaller stations up the line between Swindon and Andoversford that recommend themselves to the attention of the modeller.

Some of the station layouts are illustrated, and it can be seen that there are some very unusual ideas on this line. Cricklade station is a moderate-sized station, and would be ideal as the chief station if one were not too ambitious. The signal-box (illustrated) is a unique structure, and would repay all the time spent on constructing a model of it. The outside wooden staircase would perhaps be best built up separately, and attached when complete to the side of the building. Do not omit the cupboard under the overhanging end of the upper storey, as this is an important detail.



SOUTH-WESTERN JUNCTION RLY.

by C. Gordon Watford

As a change from our usual branch prototype we are this month describing, in outline, one of the smaller pre-group lines.

I would advise the would-be modeller to avoid modelling Cirencester (Watermoor) station, as it is far too big and complicated for modelling purposes. Instead, take a look at the rural simplicity of Chedworth, farther up the line. This section of track, north of Cirencester, was double track in the M. & S.W.J.R. times, but the Great Western lifted one of the tracks, with the result that the northbound platform stands isolated and weed-infested. Last year the station buildings, on the southbound platform, were closed, and the station is now an unstaffed halt. Situated on a sharp curve, in a steep cutting, this layout would be exceedingly good as a means of approaching a hidden marshalling yard or tunnel, and could thus be located towards a corner of the room. The stone bridge over the line, with its unique retaining wall, is, to my mind, one of those rare features of railway and civil engineering which really commends itself to modelling. I stumbled upon this bridge quite by chance, and value it as one of my most interesting photographs. A word of advice in the ear of the scenic modeller—the scenery around this station is very hilly, the other end of the station being on an embankment! The station building is in timber, and the model would be constructed in card. Several layers would be necessary to model the panelled doors and the planks of the walls, while the roof, which is in corrugated asbestos, could be made either by using a sheet of what is sold as corrugated iron and painting a flat grey, or with card and rice paper pressed over string formers. Note that the projecting roof slopes downwards and is not supported by pillars but by the diagonal timber struts from the wall of the building.

Top left: Cirencester signal box. Top centre: An unusual stone bridge and retaining wall at Chedworth. Top right: Cricklade signal box.

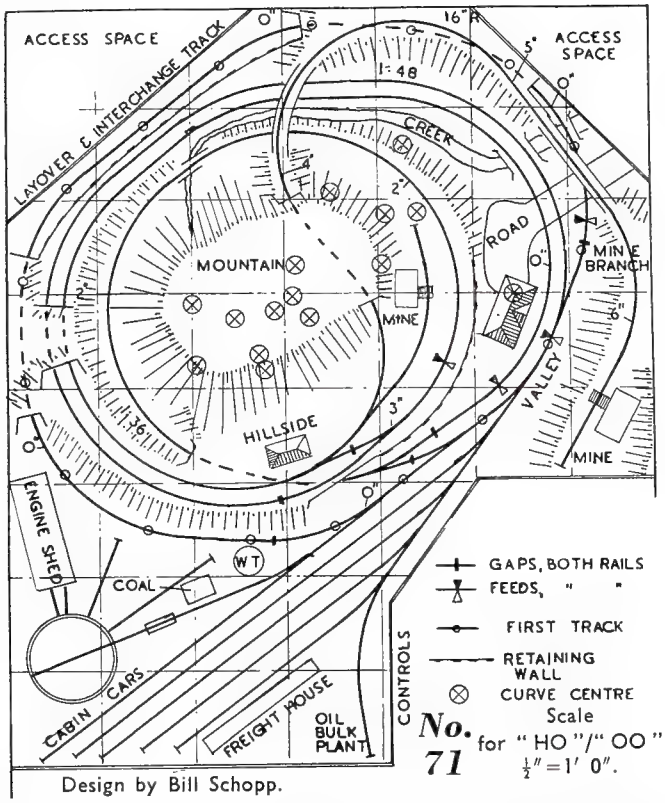
In the days of the M.&S.W.J.R., the passenger trains were worked by the beautiful 1335 class 2-4-0 locomotives, and Nos. 1334-6 were still running a few years ago, albeit on another section of the old Great Western. I have yet to see a model of this class of loco., and I think it a great shame, for they were delightful engines for their time. I have a model of 1336 under construction in 16.5mm. gauge, 4mm. scale, and I cannot help feeling that it is the ideal size of loco. for the small branch line. Although a tender loco, it is not more than about eight inches long, and being four-coupled will, or rather should, negotiate the sharpest of curves.

Bottom left: Chedworth station buildings.

Bottom right: Cirencester (Watermoor) station buildings.

LAYOUTS FOR THE MODELLER

Layout No. 71 is an American style layo : for a small room, designed by Bill Schopp and exhibiting his innovation, the oval yard lead here labelled "layover and interchange track." One train can operate on this while another circles the looped-eight main line. Alternatively, two trains can run in opposite directions on the main line, which is part single, part double tracked. The steep curving branch line to a mine could be a separate section for added operation. The yard is for freight and a few passenger cars, the former being about six inches long, the latter eight inches (or "shorties"). "Cabin cars" is an alternative for the plural of caboose, the American term for goods brake van. American layouts usually contain much mountainous scenery, although this one is unique, being small, in not having any space for a town. A growing feature of U.S. layouts, expounded by the designer in his articles in *Railroad Model Craftsman* magazine, is having all points within easy reach without "ducking under." This is well exemplified by this small layout.



No. 71 Scale for "HO"/"OO" $\frac{1}{2}$" = 1' 0".

Design by Bill Schopp.

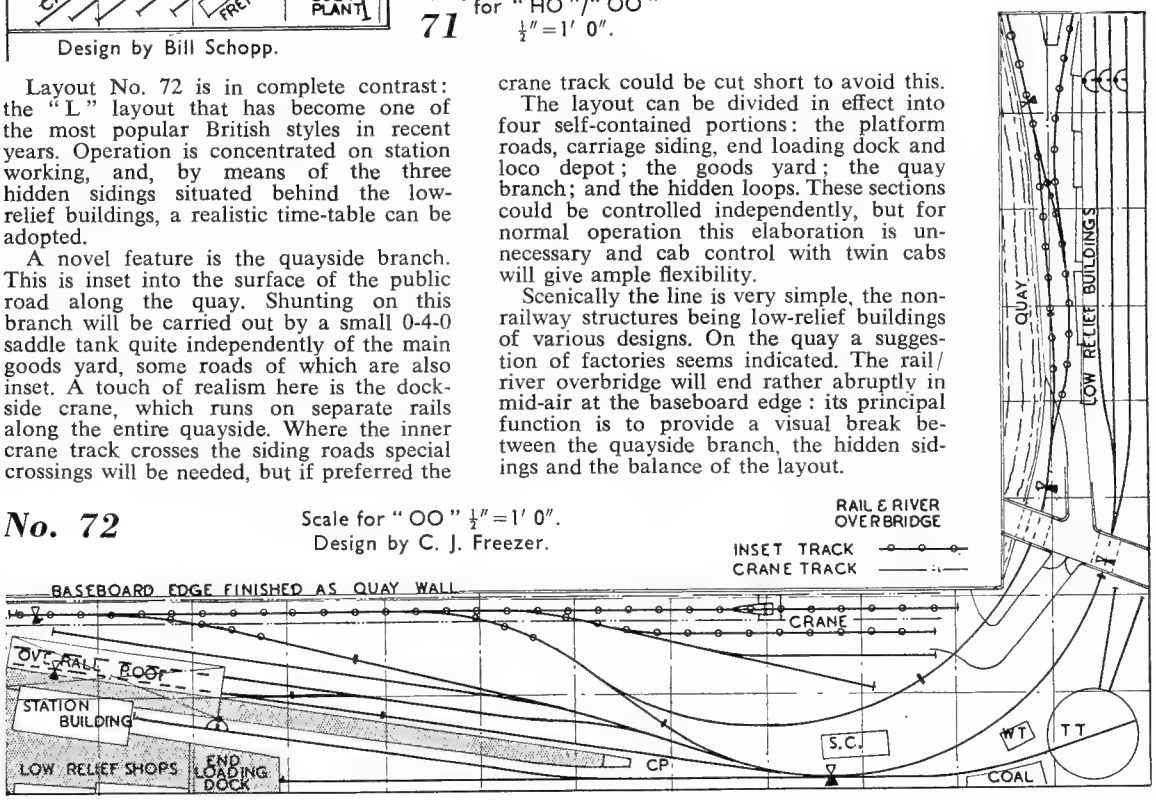
Layout No. 72 is in complete contrast: the "L" layout that has become one of the most popular British styles in recent years. Operation is concentrated on station working, and, by means of the three hidden sidings situated behind the low-relief buildings, a realistic time-table can be adopted.

A novel feature is the quayside branch. This is inset into the surface of the public road along the quay. Shunting on this branch will be carried out by a small 0-4-0 saddle tank quite independently of the main goods yard, some roads of which are also inset. A touch of realism here is the dock-side crane, which runs on separate rails along the entire quayside. Where the inner crane track crosses the siding roads special crossings will be needed, but if preferred the crane track could be cut short to avoid this.

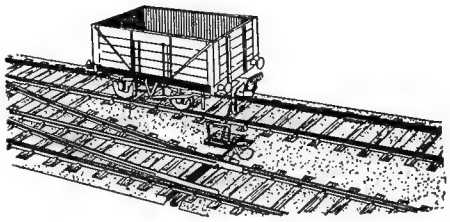
The layout can be divided in effect into four self-contained portions: the platform roads, carriage siding, end loading dock and loco depot; the goods yard; the quay branch; and the hidden loops. These sections could be controlled independently, but for normal operation this elaboration is unnecessary and cab control with twin cabs will give ample flexibility.

Scenically the line is very simple, the non-railway structures being low-relief buildings of various designs. On the quay a suggestion of factories seems indicated. The rail/river overbridge will end rather abruptly in mid-air at the baseboard edge: its principal function is to provide a visual break between the quayside branch, the hidden sidings and the balance of the layout.

No. 72 Scale for "OO" $\frac{1}{2}$" = 1' 0". Design by C. J. Freezer.



Peco Topics



UNIVERSAL POINTS

by S. C. Pritchard

UNIVERSAL points are provided with a closing frog, and thus have no check-rail gaps to complicate matters when it is desired to operate a railway with stock fitted with wheels of different standards. They are also very useful where sharp radius and curved points are needed, as they provide a smooth path and are thus less likely to lead to derailments. To provide for deep flanges, Peco universal HI section rail is used throughout.

The point sleepers and stock rails are laid in exactly the same fashion as for a normal point, and the inner rails of the frog are also laid in the same way, except that the lower flange is filed away at the tip, as shown in the inset sketch. The frog rails are spiked in position and soldered together to form a single unit.

Next the point blades are taken and bent so that the " wing rail " lies firmly against the frog when the point blade is against the stock rail, the lower flange being filed away for this purpose as shown in the diagram. A Peco point blade is long enough for all universal points of 2ft. radius or less.

The two point blades must now be joined together firmly as a unit, and pivoted in the centre. To do this, four stretchers are needed in addition to the tie-rod, the centre stretcher carrying the pivot. These stretchers are made from standard 1-32in. thick sleepering, cut to length. The three central stretchers have two holes pierced in each end, and a Peco pin, or a short length of wire, is bent over as shown in the diagram to form a staple. The fourth stretcher, which should lie under the point of the frog, has only one hole in each end to take a pin which is soldered to the outer flange of the " wing rails."

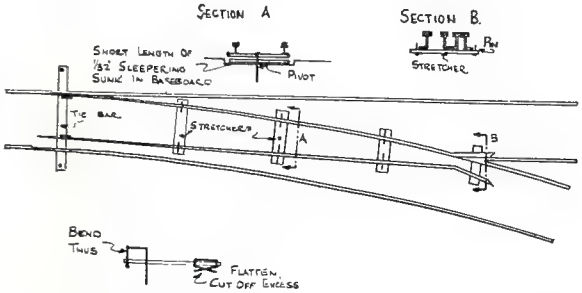


Diagram of universal point. For clarity, sleepers and rail fastenings are omitted.

To provide a firm pivot in the softboard base, a short length of 1-32in. thick sleepering is sunk into the ballast immediately below the central stretcher.

The stretchers are now placed in their approximate positions, together with the tie-bar, and each point blade is, in turn, soldered to the stretchers, taking care that it sits snugly into the joggle of the stock-rail at one end and against the frog at the other, and is correctly gauged along its entire length.

Finally, if needed, the centre third rail can be bonded. For two-rail, contact can be made by Peco contact springs, but a simple interlocking switch has certain advantages, and next month we shall describe its construction.

IT KEEPS FALLING OFF ! *(Continued from page 159)*

will not run through without jolts and jerks, and then get cracking with the soldering iron, or whatever you use for laying track, until you have rectified the faults you have found. If the wheels run through smoothly, then a vehicle fitted with them will do the same unless it is in some way defective or unsuitable.

So far we have dealt with plain turnouts, but it is probable that most of the troubles on pointwork come at the more complex bits of track. The principles of correct track-laying apply here as elsewhere—there are no new magic factors, but there are some practical considerations in applying cures. The track gauge and wheel-and-axle test will show up the faults, but when it comes to moving check-rails and so on it it often far from clear which is the best rail to adjust. For example, with a crossover between two parallel tracks, one of the most common track formations, there are two actual crossings, one in each road. If the gauge between these two crossings is incorrect, what do we do ? Whichever rail is moved, it will upset the alignment at one of the crossings. This trouble is better avoided at the start than rectified later on. It usually arises where a complete piece of track, for example the entry points to a terminus, is laid out and built as one unit. It may be very good, but if it is not, it will be almost incurable. The best method of dealing with this sort of thing is to make up all points separately and check them as you go along, the final assembly being done when they are all finished. Two identical points put back to back, for instance, form the usual crossover. It may be a bit slower, and you will get more rail joints, but it is likely to be more satisfactory in the long run.

READERS' LETTERS

This space is reserved for the free exchange of readers' ideas and opinions

MET. RAILWAY STOCK

Going through the May MODELLER I came across a drawing of an old favourite of mine, the Metropolitan covered van, and I must say I am not in complete agreement with Sir Eric.

The company adopted two styles of lettering throughout most of its history, MET. (with a full-stop) and MET. RLY. (with two full-stops), both of which are shown on the small photograph reproduced above. For some time they also had a small device consisting of a red line across a white circle disc on the solebar. All goods stock was painted a deep slate grey, with wheel tyres and roofs of vans white.

On the formation of the L.P.T.B. the livery was changed to pale grey and the four initial letters were spread across the sides of the vehicle. This was later changed to the agreed standard scheme and took the present form of the two words LONDON TRANSPORT, one above the other on the lower planks at the left-hand side.

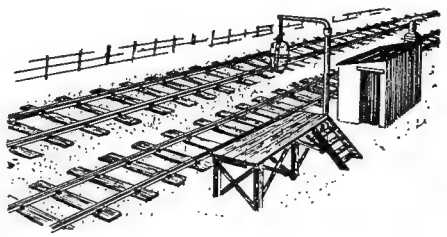
Pinner. C. BAKER.

G.E.R. REFRIGERATOR WAGONS

In the current issue (May) Sir E. O. Hutchison says that these wagons were painted white, with a black panel on which were white letters. The illustration of van number 21974, however, is identical with the one in the *Locomotive Magazine*, 1899, where it is stated that the vans were pale yellow, with brown lettering, and having a brown panel with yellow letters.

It may be that the livery was changed at some time, or that there were two or more series of vans (the number 21974 is outside the range mentioned on the drawing), in which case the illustration is misleading in suggesting that the vans used for the Italian butter traffic were black-lettered on white.

There were certainly some G.E.R. ventilated vans which were painted white with black letters, but these were of a later design and somewhat larger, and in any case were not fitted with the ice boxes for refrigeration purposes. In view of the risk of the loss of so much information with the passage of time, I should be glad if any reader could throw some more light on the matter. These vans are not referred to at all in Carter's book on British railway liveries, which gives dark grey as the colour of all G.E.R. goods stock except gunpowder vans. All other authorities except the *Locomotive Magazine* give dark grey without any qualification.



London. P. E. BARNES.

(SIR ERIC'S COMMENTS)

G.E.R. Refrigerator Wagons

The photograph published was the only one I could get hold of, and apart from the legend "Italian Butter Traffic" illustrated the normal G.E. refrigerator. For that reason, therefore, I thought it as well to choose it to accompany the drawing.

I know that the painting round about 1900 was light yellow with brown writing. The van from which I made the drawing was measured up in 1922, and was certainly white with black writing then, so it would seem that at some period the style was changed. I quite agree with Mr. Barnes that this is a point which ought to be cleared up before it is too late, and I for one should be glad if any reader could help to do this.

MET. RY. stock

I understood that after, or perhaps during, the 1914-18 war the full-stop was discontinued on Metropolitan stock for reasons of economy. One would not imagine that a full-stop would take much paint, but when reproduced several thousand times no doubt the quantity involved is considerable. The van illustrated had no full-stop in 1922, and had been quite recently painted. I remember noticing the absence of the full-stop at the time and thinking that that confirmed what I had heard about its being dropped, for the Met. stock which I had seen up till then had certainly had full-stops.

However, this too is a point which some reader can clear up.

Edinburgh. SIR ERIC HUTCHISON.

G.W.R. AUTO TRAILERS

On perusing Mr. R. P. Walford's list of ex-G.W.R. trailers in the December 1954 issue, I find that number 146 is referred to under both suburban and branch types, while numbers 141 and 148 are omitted (the latter appears only under bogie examples). Perhaps Mr. Walford will be so kind as to publish an amendment.

I recently noticed trailer number W4364W at Berkeley Road. This appears to be a conversion from an ordinary compartment coach. Has Mr. Walford or any other reader any further details of such vehicles, please?

Birmingham. G. R. DRIFFIELD.

(MR. WALFORD REPLIES)

Regarding Mr. Driffield's inquiries, 146 in the suburbans is a misprint for 148, which is thus accounted for. 141 was of Cambrian origin.

In 1933-5, between the wide-compartment coaches (like the 1929 " Riviera ") and the end-vestibule stock, the G.W.R. had an economy spell in which they built rather Spartan-looking coaches with a very limited range of types. The auto trailers, though interchangeable with the familiar kind, were part of ordinary lots of non-corridor brake coaches, modified with a driving compartment at the van end and with the double doors moved inward to the position normally occupied by the guard's doors. Two brake compos, 6818/20, and two brake thirds, 4350/64, were so produced. There was another batch of brake thirds in 1938, 1668-71, which were the last trailers built until the usual type were resumed in 1951. As far as I know, the Severn and Wye is the only line operated exclusively with these trailers. A number of the corresponding thirds were fitted as non-driving trailers recently, because of the increased use of auto trains in the improved Cardiff valleys services. Such a third running with a trailer of the usual type is now a common sight there.

Bovey Tracey. R. P. WALFORD.

ADVICE BUREAU

I am a regular reader of the RAILWAY MODELLER and eagerly anticipate each new number. I like the Advice Bureau and Readers' Letters, but must admit that I am tickled by the imp of mischief on reading same.

The correspondence of writers who are peeved that they are unable to procure their pet locomotives from Woolworths is interesting. It reminds me of the Londoner who, having placed a large sardine tin in the south-east of the country, and encouraged all and sundry to fill it, perpetually moans about being cramped. In like manner your writers have restricted their choice of locos by the terrain of their layouts. It was a problem that I faced at the very beginning in choosing my layout and its geographical situation. With such prototypes in mind as the Woodford—Banbury and Gloucester—Hereford link lines, and transporting the idea northwards for an east to west link somewhere in the Woodhead valley, I developed an independent single line cross-crountry link which in imagination connects with B.R. London Midland and Eastern Regions, so that they have running powers over it. My first choice of loco was a black Stanier, as most suited for all purposes. Later it was joined by two 3F tanks. The future is rosy, as when funds permit I have the choice of a Crimson Rambler of K.M.R. vintage, and large tanks viz. Prairies and the latest Hornby B.R. The layout may see an improved B1. Should I wax sentimental—and sentiment has to be paid for—I feel that Cherry's can provide me with a Robinson " Director " in its original livery at a price. I have yet to understand why manufacturers' choice fell upon the N2 for a standard tank. My first impressions of the prototype were of the corporation drain sluicer, and even with condensing pipes removed it remains an ugly duckling.

Your Advice Bureau conjures up a brighter problem idea. An imaginary beginner in the hobby posed the following query to me, and thus saved a stamp and overcame the difficulty, having lost the necessary coupon.

Query : Having read many RAILWAY MODELLERS I took the plunge. I live in a council house and am the father of ten children. Consequently I find space very limited. I intend to build a portable layout in a matchbox, and realize that point-to-point will be very short, so am considering a continuous line in which curves will be very acute. Do you advise such a portable ? If so, can I run a B.R. 2-10-0 on it ? What flanges will I have to " manicure " ?

Advice : We do not advise a match-box portable, as it may suffer from " strikes." A 2-10-0 loco will be impracticable, for if you build one in the smallest scale we fear it would be a stationary engine. You might experiment with a Beyer-Garrett. Failing this, we suggest a caterpillar. From experience we know they are cheap, with no purchase tax. They are infinitely flexible, and can be procured in a variety of liveries. They are adaptable to all B.R.M.S.B. standards of " 3," " 2," " 1 " and " 0 " rail, besides taking easily to overhead wires.

I was not sure what advice I should give on another problem: My wife is very angry, as she has lost her pastry board. I admit that I am a model railway enthusiast and much intrigued with 6 x 4, and the missing article is the nearest approach to a suitable baseboard I could find, though the layout is somewhat cramped. In view of imminent collision, what steps do I take for running powers over my neighbour's garden ? What is the bell code for " wife in section " ? Should collision be averted, would out local taxi-driver be an authority on " cab control " ? Suggestion: Buy wife a new hat and then confess.

Taxi-driver might " electrify " you, so keep clear.

Irresponsibly yours,

Belfast. H. PUGHE MORGAN.

MINIATURE FIGURES

At the foot of all miniature people there is the usual flat piece of lead for standing the model upright. I always pinch the bulk off with a pair of pincers, and file down to the welt of the shoe or boot.

I then put a dab of balsa cement on to the soles of them and fix to the position required on the station, pavement, roadway, etc.

This gives a much more realistic appearance to the model and more so to the scenery around, which is especially noticeable in photographs of the layout.

For those modellers who wish to move their people about, the balsa cement will part from the shoes or boots quite easily if the model is rocked sideways, and can, of course, be refixed in the new position.

Wilton. R. E. H. KINDER.

BITTON STATION

Some of your readers who are planning an authentic model of Bitton station [see April RAILWAY MODELLER] may like to know of some of the strange but regular visitors to this branch. Since it has come under the supervision of the Western Region, an ex-G.W.R. diesel railcar has made two trips in both directions over the branch daily.

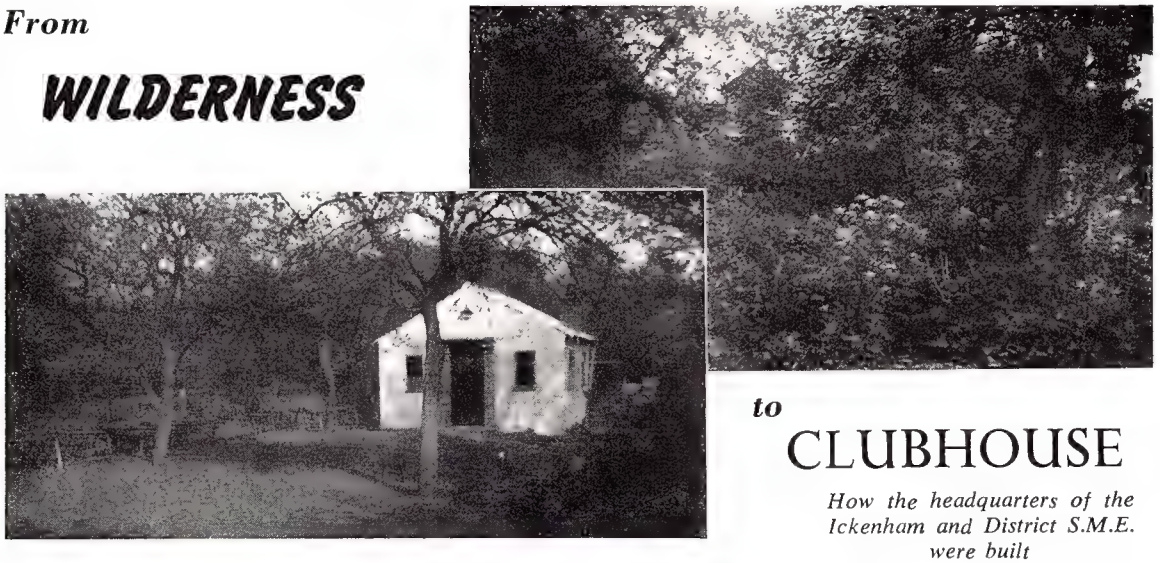
In addition, S.R. stock would never look out of place, as the terminus at Bath (Green Park) is also the terminus of the Somerset and Dorset line.

Recently a new " ultra-modern " station has been opened at Portishead, near Bristol. Do you think that if I write an article on it, and it is " up to standard " there would be any possiblity of including it in the RAILWAY MODELLER ?

I have already made one model of it, since demolished, and hope soon to start anew.

Bristol. M. G. D. FARR.

From WILDERNESS *to* CLUBHOUSE



How the headquarters of the Ickenham and District S.M.E. were built

WHEN the opportunity arose in August 1953 of purchasing a builder's large site office it was decided that the society should endeavour to purchase a suitable piece of land upon which to build our own headquarters. After various offers had been considered and sites inspected, a suitable plot was eventually purchased in April 1954, and at once work commenced on clearing it.

In the meantime plans had been drawn up and submitted to the local authority, in order to obtain the necessary permission under the Town and Country Planning Acts, so that work could commence. After one or two minor alterations had been agreed upon a start was made in May 1954.

The trenches for the foundations were dug out at Whitsun and were soon after filled with two feet of reinforced concrete. The society is fortunate in having a builder among its members, with the result that expert guidance was always available, as well as the use of a small mobile cement mixer and a breeze-block making machine. With the aid of these machines, concrete blocks, measuring 18in. x 12in. x 3in. were quickly made in quantity, so that by early June members were able to lay the solid concrete floor.

This block-making machine produced the concrete blocks with which the main walls were built.

The walls, which have brick piers, were soon built up to window level, and the window frames taken from the builder's site office purchased earlier were placed in position. By the end of July the roof of timber rafters and asbestos sheeting was fixed in position, so that other activities were commenced, including clearing and thinning the hedges on the plot's borders, making up the main pathways and building a separate small shed to house the 500c.c. Lister 4-stroke petrol engine and generator to supply electric current at 240 volts A.C.

During last autumn the wiring for lighting and power was installed before the ceiling boards were placed in position and the interior walls were cement rendered and painted with emulsion paint. Before Christmas two coats of "Snowcem" were painted on the outside walls.

Owing to the bad weather during the early part of this year, outside work was not recommenced until Easter, when the site was cleared considerably, so that it was decided then to plan an official opening, on June 18 last, by which time the "OO" gauge track would be installed and working and the multi-gauge live steam track would be in position on the site ready for running a passenger hauling service.

In spite of activities being centred mainly on these building operations during the past eighteen months, members have continued with their model making, and an exhibition of their models was very attractively laid out in the headquarters at the official opening.

Exterior and interior views of the clubhouse. On the right can be seen the framework for the "OO" gauge layout.

CLUB NOTICE BOARD

featuring popular personalities and society news

Personality Parade No. 43

H. W. G. Swindell

Weymouth and District M.E.S.

H. W. G. Swindell began railway modelling in 1945, in "O" gauge, but later decided to adopt "OO." The first layout had, unfortunately to be dismantled just as it had reached a point where it could be called complete, if not perfect, but despite this setback he remained undaunted. For a change, he decided to model American prototypes in "HO" gauge, and began this project in early 1954.

He is hon. secretary of the Weymouth and District Model Engineering Society, and, as befits an official of a model engineering club, does not confine his modelling activities solely to railways, but also constructs waterline ship models.

The super-meticulous critics, with magnifying glasses at the ready to spot minute defects, are his pet hate; he is essentially of the model bashing fraternity, with his workshop on the kitchen table. He is married and has one son, who is at present following in father's footsteps.

NOTES AND NEWS

Copy for these columns must be received five weeks before publication.

THE FARNBOROUGH MODEL RAILWAY CLUB

As from May 19 last the Farnborough Society of Model Engineers ceased to exist and the above club took its place. The clubhouse is situated in St. Christopher's Road, Cove, Farnborough, where a large "O" gauge layout is nearing completion. A "OO" layout with end-to-end running is also planned. The club meets on Thursdays at 7.30 p.m. and new members are always welcome. Further details can be obtained from the hon. secretary, D. L. Jenkins, 16 Hurst Road, Farnborough, Hants (tel. 1911).

PROPOSED SLOUGH CLUB

A club is to be formed at Slough, with the object of pursuing the various interests of railway enthusiasts over the widest possible field.

Premises are available and it is intended that work shall commence immediately on the building of a "OO" gauge layout, using proprietary equipment.

For live steam enthusiasts a passenger-carrying locomotive, together with a length of portable track, will be available and a part of the clubroom will be set aside as a machine shop.

It is planned to organize a full programme of outdoor activities, depending largely on the demand.

The inaugural meeting will be held on Wednesday, July 13.

All persons interested should contact Mr. A. Rowley, 40 Meadow Way, Old Windsor, Berks (tel. Windsor 2794).

NORTHOLT MODEL RAILWAY CLUB

The club's activities are expanding with the new two-rail layout under way, the baseboard and staging having been completed. Finance is also now available for the purchase of track material.

The stud-contact layout continues to advance with scenic additions.

The annual general meeting is being arranged for Friday evening, July 1, and all members, past and present, are invited to attend. All inquiries to the hon. secretary, Mr. R. G. Turner, 5 Craven Avenue, Southall, Middlesex (tel. Southall 4265), or to the clubrooms at the Community Centre, Northolt, near the Central London Line station.

NORTHAMPTON AND DISTRICT MODEL RAILWAY GROUP

Work on the club's 4mm. and 7mm. scale layout is now progressing very satisfactorily. Meetings are held every Wednesday evening at 7.45 in our clubroom at the Conservative Working Men's Club, Whitworth Road, Northampton. Prospective members are always welcome, and are assured of a cordial reception.

Full particulars of membership will be gladly furnished by the secretary, Mr. A. E. Giles, 113 Harleston Road, Dallington, Northampton (tel. Northampton 2386).

HODDESDON AND DISTRICT MODEL RAILWAY SOCIETY

The society has now acquired its own headquarters at the rear of 56 High Street, Hoddesdon, Herts, and all meetings take place there at 7.45 p.m.

The hard work put in by members in redecorating, rewiring, and renewing the ceilings has given us a very comfortable meeting room and layout room. Our first society layout is on the drawing board, and it is hoped to make a start in September on trackwork.

The junior section will start their own meetings on Saturday afternoons after Whitsuntide. It is hoped to arrange for our summer outing to the Romney, Hythe and Dymchurch Light Railway early in July. Further details will be gladly supplied by the hon. secretary, Mr. Peter Fieldhouse, "Aysbrook," Middle Street, Nazeing, Essex (tel. Nazeing 2185).

ILFORD AND WEST ESSEX M.R.C.

On Wednesday, May 18, we had one of our regular visits from Mr. Maskelyne, who was, as usual, most entertaining on a great variety of railway topics. The only trouble is that his visits are not long enough or frequent enough to answer all our questions.

The new layout continues to make good progress. The laying of sleepers and the installation of platforms had a markedly civilizing effect, though underneath it does not look so civilized. Still, as M. Panhard said, "C'est brutal, mais ca marche" (we hope!).

Particulars from Mr. R. L. Riddle, 36 Vernon Road, Seven Kings, Essex.

JULY MEETINGS

BIRMINGHAM MODEL RAILWAY CLUB
- 6 Exhibition layout operation.
- 14 Mr. H. Chase: "Models of Yesterday."

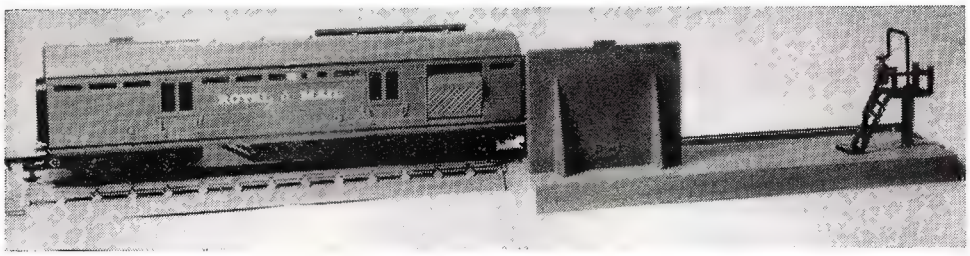
COULSDON MODEL RAILWAY SOCIETY
- 4 Railway adventures: members.
- 18 Track night.

HODDESDON AND DISTRICT MODEL RAILWAY SOCIETY
- 6 Proprietary equipment and its problems.
- 20 Suppression of T.V. interference by model railways.

MANCHESTER MODEL RAILWAY SOCIETY
- 9 Talk by Mr. T. Morris.

MODEL RAILWAY CLUB
- 2 Garden meeting: Sussex House.
- 7 Track night: L.M.S.
- 21 Lecture, H. A. Vallance: "Charing Cross to Reading via Redhill." At Caxton Hall, S.W.1.
- 28 Track night: free-lance, American and narrow-gauge groups.

NEWS AND VIEWS OF TRADE INTEREST TRADE



Tri-ang mail coach set.

ONE of the most popular gimmicks on a model railway is the working mail coach, for it never fails to interest visitors. Various schemes have been published for devices to pick up mail bags and occasionally to put them down again afterwards, but all have involved the modeller in a great deal of fiddly fitting.

The new Tri-ang mail coach is a really neat, highly detailed coach which will pick up a small plastic mailbag and drop it again. The set, which costs 21/-, comprises the coach, together with the necessary pick-up and dropping apparatus, each with a standard length of Tri-ang track ready to fit into the layout. This makes the whole affair delightfully simple to arrange, and means that anyone can have a working mailbag pick-up.

The bag is picked up correctly, in a plastic "net" which swings out neatly at the precise moment. The dropping, however, is not so authentic. Hamilton Ellis, in his *Nineteenth Century Railway Carriages*, explains how, on the U.S.A. railroads, the practice was to boot the mailbags through the open door as the train rattled through the station, doubtless adding excitement to the lives of the hobos lining the tracks. Much the same procedure is adopted in this case, except that the mechanism is able to hurl the bag

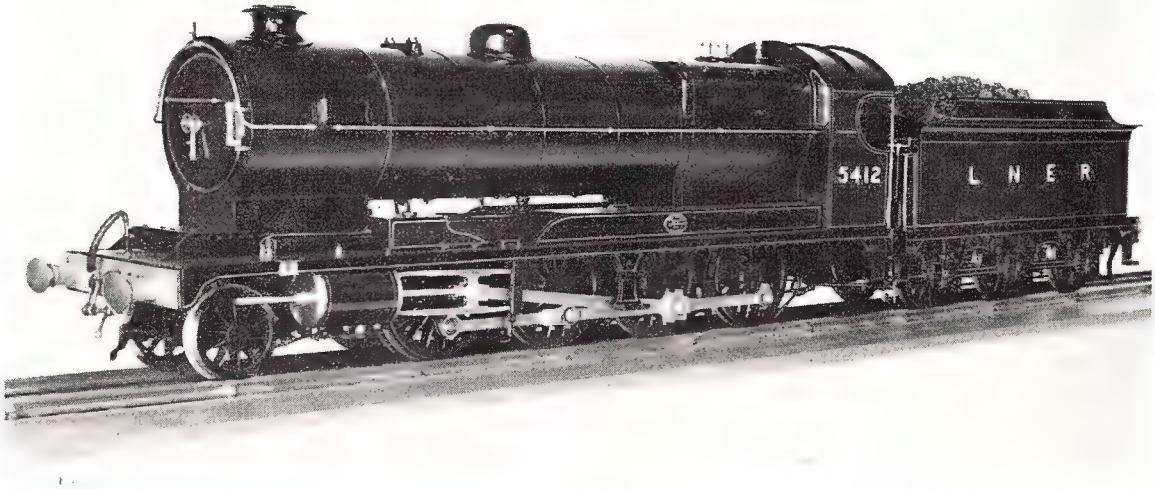
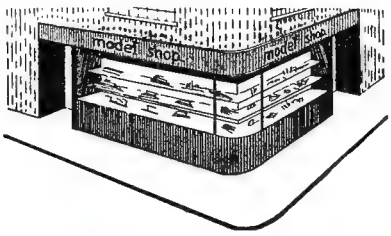


Photo : Leslie Overend

This beautiful fine scale "O" gauge loco was built by Edward Exley Ltd. to special order. It is complete in every detail and is a faithful copy of its prototype, an ex-G.C.R. 2-8-0.

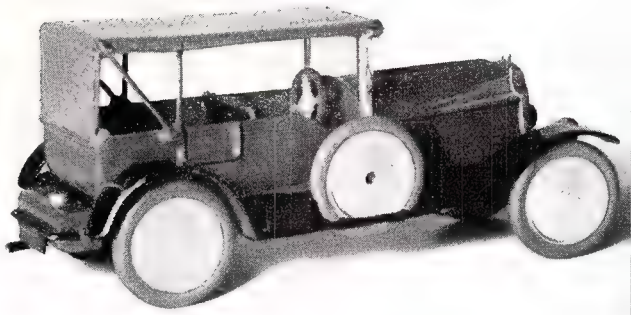
WINDOW



into the receiving box with an accuracy that is almost unbelievable. However, this is done on the "wrong" side, which would mean that some realignment of scale double tracks would be needed.

Although built primarily for Tri-ang, there will be little difficulty in incorporating this ingenious set-up into any "OO" gauge model railway built on a permanent baseboard. The wheels on the coach will have to be changed for others to the chosen standards, and couplings too may need alteration. The track units, however, can be adapted by the addition of a "third" rail, if necessary, while any two-rail system will, of course, merely join direct to the rails provided.

We are happy to illustrate two examples of special orders carried out by our advertiser E. B. Leng. The V2 2-6-2 began life as a commercial "O" gauge "Flying Scotsman." The car, also a 7mm. scale model, is a Vauxhall of about 1920 vintage.



7mm. scale Vauxhall car (c.1920) built to special order by E. B. Leng.

BOOK REVIEW

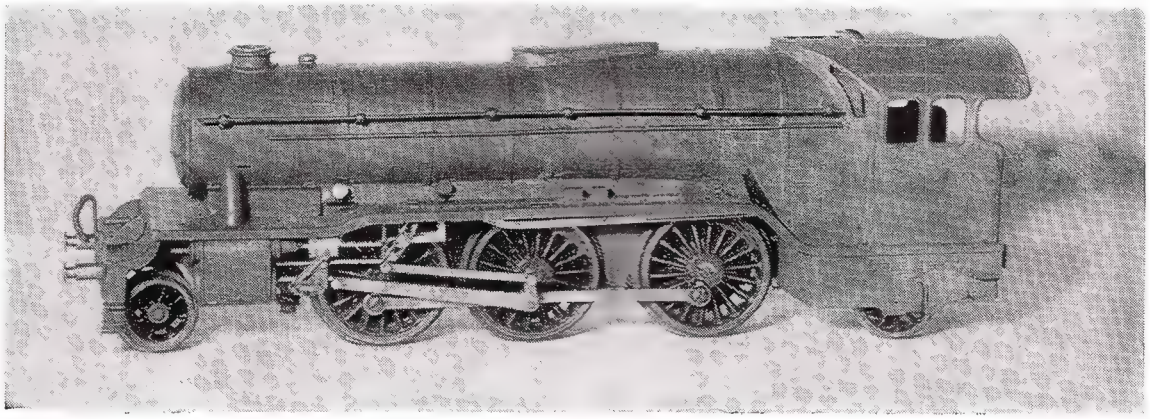
The End of the Line, by Bryan Morgan. (Cleaver Hulme Press, 25/-.)

Mr. Morgan, in the opening paragraphs, says that model railways have nothing to do with his subject. We forgive him, for he then proceeds to give us a galaxy of continental prototypes, any of which would make a fine model in the Craig and Mertonford or Madder Valley style.

This is not just a catalogue of European light railways, nor is it in any way a scholarly study. It is the record of many journeys carried out on the railway byways of the Low Countries, France, Italy, Switzerland, Austria, Germany and Denmark. It is, moreover, a personal record, and, as Mr. Morgan dislikes electricity and merely tolerates diesel railcars, it is the steam locomotive, whether in its normal form or disguised as a coach, forming part of a steam tram, that takes the leading role.

A large number of excellent photographs accompany the text, and will doubtless provide inspiration for many of our light railway modellers.

In his concluding chapter Mr. Morgan describes his ideal railway, a judicious blend of the diverse items he enjoyed on the lines he has visited. Such a line is perhaps impossible to a scale of 12 inches to the foot, but given a reasonable sized room, 4mm. scale, what a model it would make, with its station names culled from the pages of Bradshaw, its rolling stock purloined from half the minor lines in Europe, its gauge, so conveniently scaling 9mm., and above all its staff, who are so obviously the people who *ought* to run a railway.



L.N.E.R. V2 rebuilt by E. B. Leng to special order from a commercial "Flying Scotsman."

Summer BARGAIN Sale

Here's a chance for you to stock your railway during the out-of-season period at wonderfully cheap prices.

BARGAIN SALES

BOBBYS (Scale Model Railways), 83 Promenade, Bridlington. Open 8 a.m. till 7 p.m. (including Sundays till end of September). Gem "Flexi-trak" in yard lengths 2-rail 4/6, 3-rail 6/-. Universal turnouts, right or left hand, 2ft. radius, 2-rail 10/6, 3-rail 12/3. Wrenn track 2-rail 4/8, 3-rail 6/2. Universal turnouts 2ft. radius, 2-rail 10/6, 3-rail 12/3. Fishplates 4/3 per dozen. Peco new track, treated steel, per 12 18in. lengths, scale, flat bottom, 4/1. High iron 5/3. Spikes 2/4. Sleepers 2/- per 100.

Exley's bargain list now available for stamped addressed foolscap envelope. Gauges "O" and "OO" in one list. Coaches, accessories, track parts, rolling stock, station equipment and oddments. All new but slightly imperfect. All goods tax free and at very reduced prices to clear.

EDWARD EXLEY (SALES) CO., The Ridge, Eaton Hill, Baslow, Derbyshire.

Reduced to clear. No longer being manufactured. Graham Farish 2-rail 3-plank wagons 2/9 each. Match trucks 2/6 each. British Railways red suburban coaches. Type available: all 1st, all 3rd and 1st and 3rd. Price 15/- each. Formo 3-rail brake vans 2/9 each, steel side wagons 2/- each, vans 2/6 each, 7-plank wagons 2/- each.

BAKERS MODEL SHOP, 14 Canterbury Street, Gillingham, Kent

The following items at reduced prices to clear: Graham Farish stock. Wagon lit coaches 15/-, Pullman coaches (brake end) 20/-, open or mineral wagons, 3-rail 2/-, 2-rail 3/-, covered van, 3-rail 2/6, 2-rail 3/6, brake van, 3-rail 3/-, 2-rail 4/-. Postage 1/- on coach, 6d. extra for each coach, 6d. on one wagon, 3d. extra for each wagon or van.

ATTENBOROUGH MODEL RAILWAY, 82 Arkwright Street, Nottingham

Gauge "O" steel permanent way (C'work or steam), 1/6 per 18in., turnouts 12/6. B/Lowke clockwork "Prince Charles" £3/10/-. 12v. compounds £5/10/-. Graham Farish new "Golden Arrow," Merchant Navy locos £4/15/-. Gaiety S/H G.W.R. 0-6-0, B.R. 0-6-2 tanks 45/- (gauge "OO" 2-rail).

HATTONS, 136 Smithdown Road, Liverpool 15

Cast pannier tank loco body, brass main frame parts including buffers. Complete set 9/6. 14mm. brass wheels 1d. each. Trix wheels on axles 4d. each. E.R.G. springing units 6d. Green, brown, yellow, red flock powder 6d. pkt. S.M.E.C. electric signals 10/6. Latest Rovex electric motors 12/3. ACRO 2-rail points 9/6. Ex-Government 16 switch boxes 5/9. E.R.G. coach card parts 6d. set. S/H Trix rail 1/6. C.C.W. coach kits (old style) 5/-. S/H Dublo rails 2/6. Trix "Princess" and three coaches in presentation case £7/15/-.

R. WILLS, Scientific Hobbies, 92a Brighton Road, Coulsdon, Surrey

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"Railway Modeller" back numbers, 9d. each plus postage. November 1951—July 1952, December 1952, March 1953—September 1953, November 1953, April 1954—January 1955, April 1955—June 1955.

PECO TECHNICAL ADVICE BUREAU, Pecoway, Station Road, Seaton, Devon

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Hedges or "OO" and "O" gauge scenic work. Not rubber or metal. Can be cut, curved, etc., without losing effect or dropping to pieces. 11½in. length 1/2 each. Add. P. and P. Surplus will be refunded.

W. H. MANNERS, 11 Station Road, Swinton, Lancs

Farish "King John," £4 from 114/-; "Prairie," 70/- from 85/-; two-rail points, 5/- each from 6/-; point levers, three for 5/- from 2/6 each; Trix Diesel Flier, £5 from £7; 4-4-0 tender and coaches, £6 from £8; Formo three-rail 12v. sets (0-6-0, tender, three wagons, full circle track), 90/- from 112/3; loco kit, "Lord Nelson," 40/- from 51/-. See also our regular advertisement.

LIVERPOOL MODEL SHOP LTD., 10 Moorfields, Liverpool 2

Graham Farish locomotives, wagons, coaches. All at half list price. We specialize in Hornby Dublo conversions and repairs.

THE MODEL SHOP, 92 Claypath, Durham

Coach bogies: L.M.S., G.W.R., L.N.E.R., "OO" gauge, 5/3 pair, scale or H/D wheels. One pair 3d. post, two or more pairs post free.

C.C.W. PRODUCTIONS, Watford, Herts

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AMERICAN MAGAZINES. One year subscriptions: "Model Railroader" 39/-, "Model Trains" 28/6, "Railroad Model Craftsmen" 39/-, "Trains" 39/-. Specimens 4/- each. Hobson, 79 Southbrook Road, Exeter.

BOOKS on railway, transport modelling. List 1½d. stamp. Hudson and Pritchard, 91 Northgate, Huddersfield.

YEOVIL. Railway modellers invited to call. Good stocks of Graham Farish, Peco, Rovex, Trix lineside accessories. Agents for Frog airplanes and X-acto hobby knives. "Hinks for Radio," 36 Middle Street, Yeovil.

E. B. LENG, 2d Melville Road, London N.W.10, has new "OO" list available. Some item bargains. Gaiety wheels. Contact shoes. Fittings.

TORBAY Model Railway Supplies, "OO" gauge specialists. Triang, Farish, S/H Hornby Dublo. 59 Victoria Road, Ellacombe, Torquay.

FOR SALE

FOR SALE. Railway and tramway books and photographs. Railway coloured postcards and pictures, time-tables (public and working), tickets (railway and tramcar), guides and oddments. S.a.e. foolscap, Scaife, The Ridge, Eaton Hill, Baslow, Derbyshire.

GAUGE "OO" Exley coaches, accessories, parts and sundries. S.a.e. foolscap, Thompson, The Ridge, Eaton Hill, Baslow, Derbyshire.

GAUGE "O" Exley coaches, parts, track, sundries, Beeson and Exley locomotives. Considerable number of pre-1920 items including G.W.R. "Sydney." Clockwork locomotives and track. S.a.e. foolscap, Lyell, The Ridge, Eaton Hill, Baslow, Derbyshire.

TRIX train set. 50 rails, 10 trucks (one with lights), two No. 040 engines, one Pullman coach with lights, four other coaches, four pairs points, controllers, yard lamps, buildings, etc. S.a.e. for full list. Cost £38. £15 or near offer. Can be sold in £5 lots. All perfect. E. Lorch, 18 Union Road, Exeter.

WANTED

WANTED. Gauge "O" Hornby Southern Railway Schools class body and tender. "Eton." Would take complete locomotive if available. Good price paid. Currie, The Ridge, Eaton Hill, Baslow, Derbyshire.

WANTED. Hornby Dublo locomotives, rolling stock, track, suitable control gear, etc. Full details to Box No. 55/8.

WANTED. "HO" gauge coaches by Reidpath, etc. L.M.S. particularly wanted, but any company considered. Details price to Box No. 55/5.

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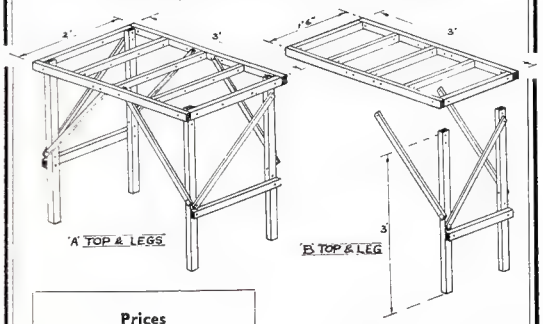

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With instruction leaflet.

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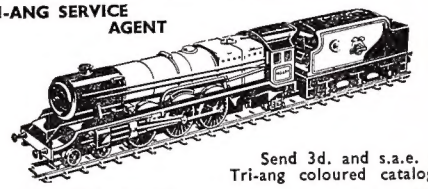

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